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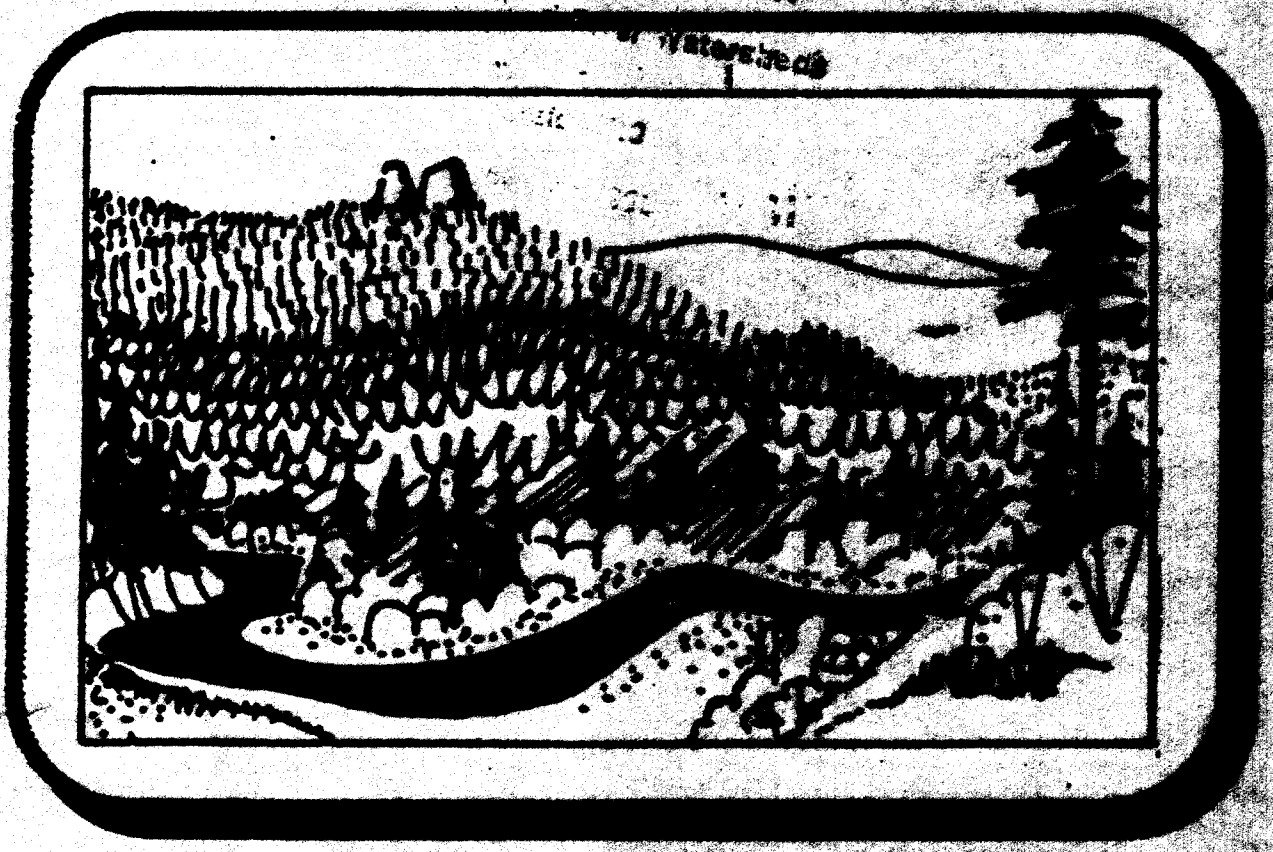
Watershed Analysis for the

Upper Rogue River Watershed



Rogue River National Forest • January 1995

Watershed Analysis for the Upper Rogue River Watershed

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DESCRIPTION OF THE WATERSHED

The Upper Rogue watershed is located in southwest Oregon, extending from the headwaters at Boundary Springs in Crater Lake National Park, to the confluence with South Fork Rogue River just above Lost Creek Lake (Figures 1 & 2). It comprises 248,269 acres of National Park Service (26%), National Forest System (67%), Bureau of Land Management (less than 1%), and private (7%) lands (Figure 3). The unincorporated rural community of Prospect lies within the private lands in this watershed.

The watershed is within the 3,300,000 acre Rogue River Basin which flows into the Pacific Ocean. The Rogue River is located in the Klamath Mountain and Cascade Mountain physiographic areas. The basin is approximately 110 miles from east to west, roughly rectangular, with the main river about 210 miles in length from Crater National Park to Gold Beach.

REGIONAL AND PROVINCIAL PERSPECTIVES

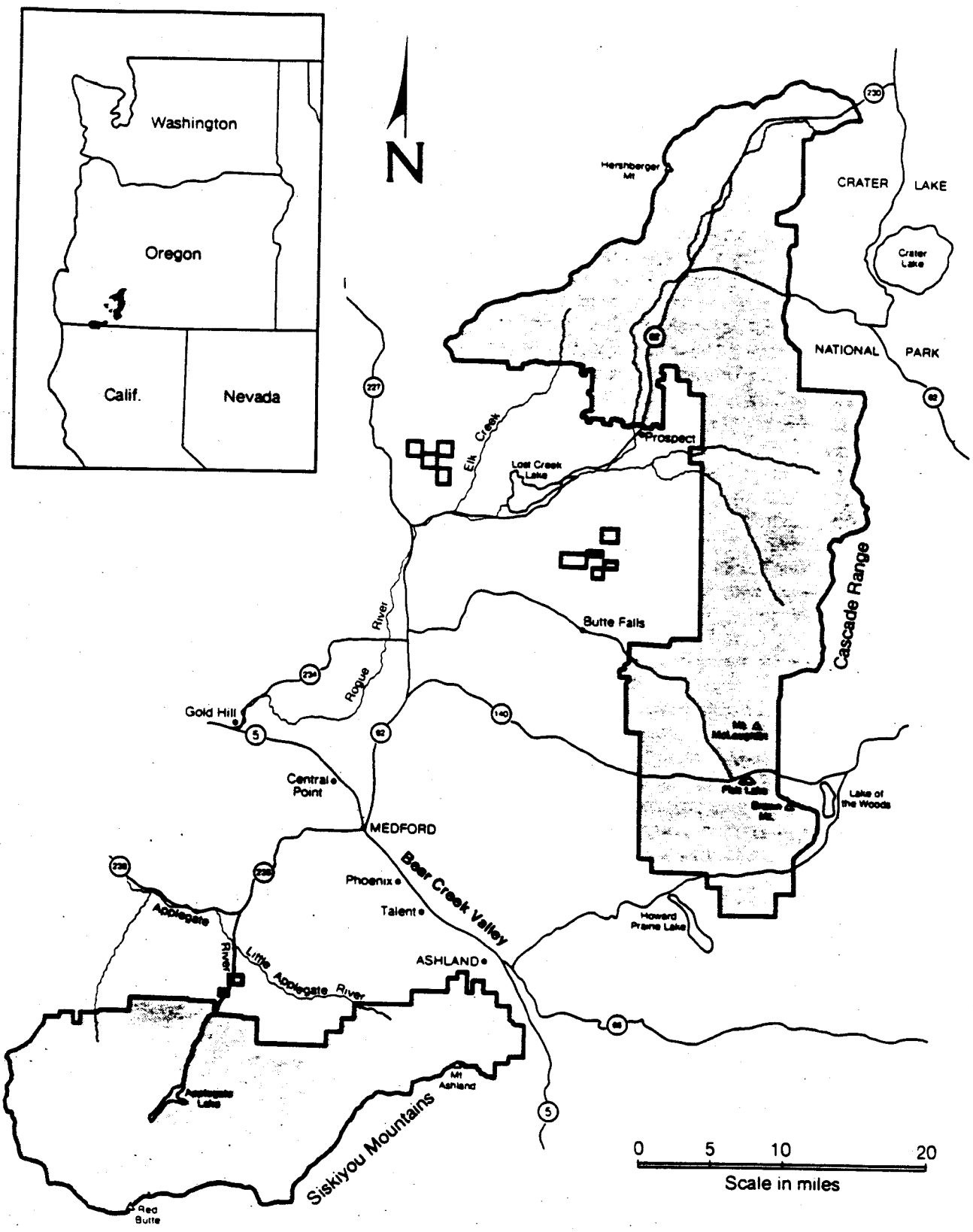
"Eight federally listed threatened or endangered species are found in the forest within the range of the northern spotted owl" (FEMAT II-30). Three of those species occur within the Upper Rogue River Watershed (URRW).

"Recovery plans exist for four of the eight and federal forest management either incorporate or should not conflict with proposed recovery measures" (FEMAT II-30).

"Over the period 1972 to 1993, the issue evolved from a question of dealing with a single species [northern spotted owl], now considered by the Fish and Wildlife Service to be threatened, to dealing with several such species simultaneously within the same ecosystem, to considering the affects of broadscale management plans on all species associated with old-growth or late-successional forests" (FEMAT II-1).

A major issue currently is the viability of the northern spotted owl within the Oregon Cascade Province (Southern end) and Upper Rogue River Watershed (URRW). The southern end of the Oregon Cascade Province is considered to be a key habitat link with the Oregon Klamath and Coastal Provinces. One such critical habitat link, located in the URRW, is CHU OR-35 a critical habitat "bottleneck" as defined by the Fish and Wildlife Service.

Figure 1. Location map for the Rogue River National Forest.



Rogue River National Forest

Figure 2. Location of the Upper Rogue River Watershed within the Rogue River National Forest.

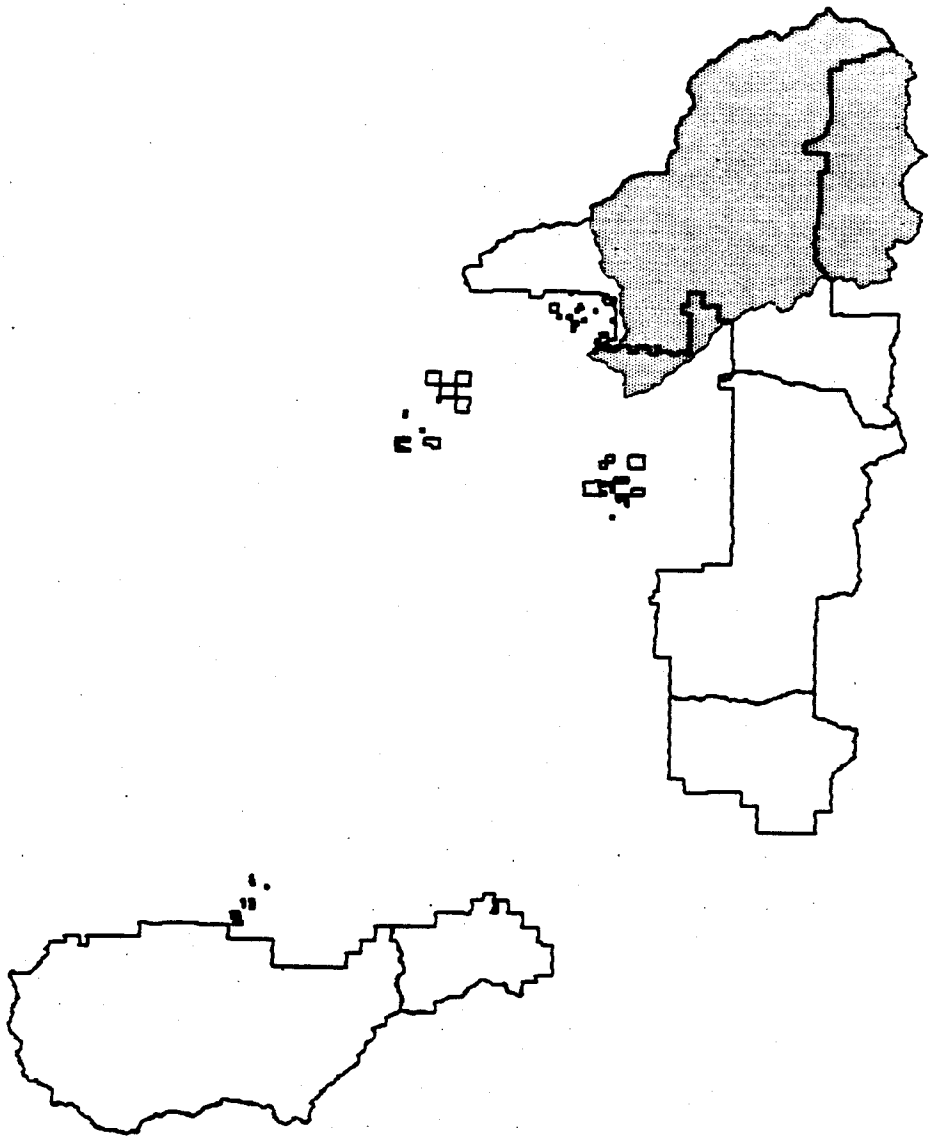
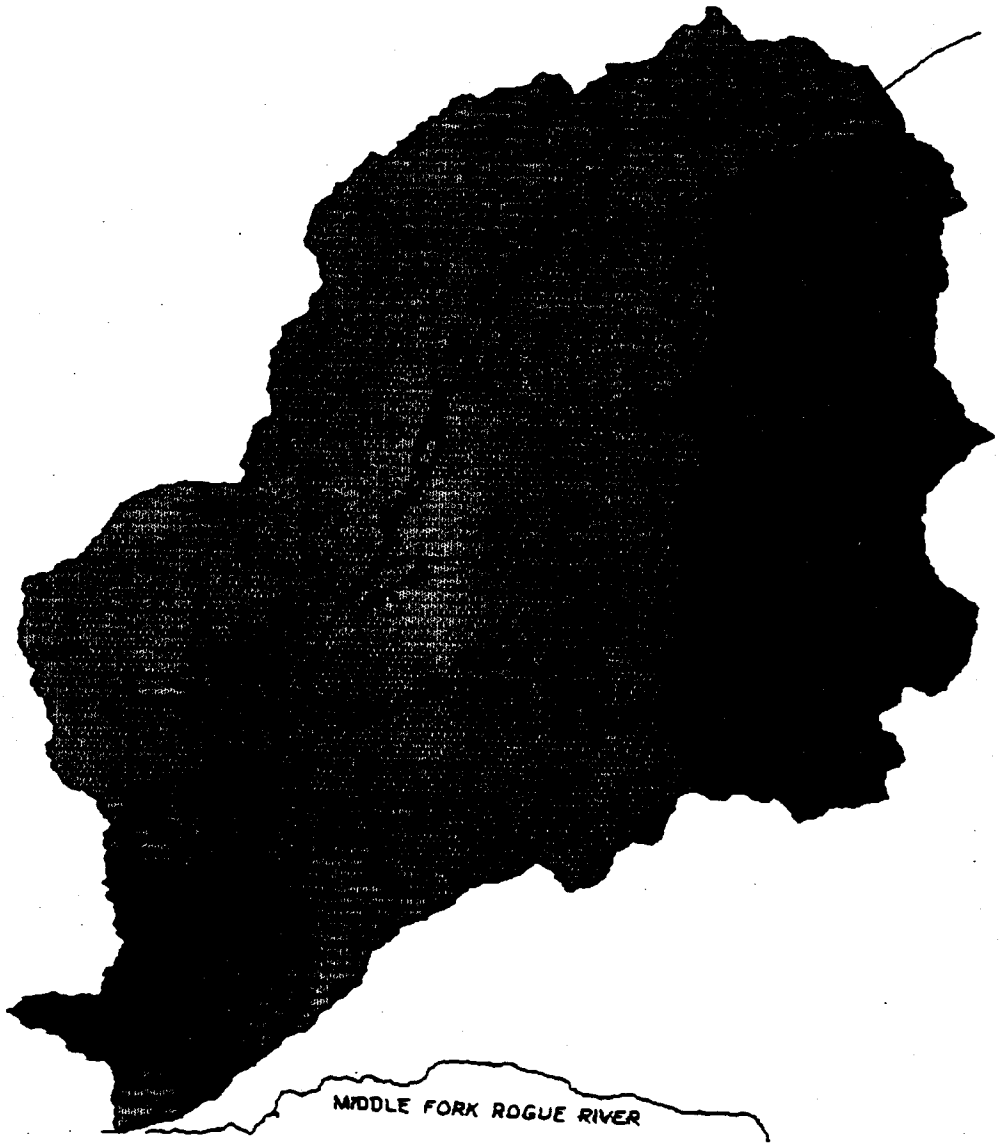


Figure 3. Ownership patterns within the Upper Rogue River Watershed.



"As a result of over a century of logging and fire control, the forests of the Pacific Northwest [and true for the URRW] presently consists of a highly fragmented mosaic of recent clearcuts, thinned stands and young plantations interspersed with uncut natural stands" (FEMAT II-2).

A continued reduction in Matrix lands of old-growth forests and other stand conditions that provide habitat for the northern spotted owl will have an effect on the viability of some local owl sites.

Threats of extinction to small populations, random fluctuations in environmental conditions, age distributions, and sex structure of populations, along with potential loss of genetic variability are most likely to influence small populations.

Another threat is the lack of coordinated conservation measures across the various ownerships. Lack of conservation coordination affects the level that natural disturbance can have on suitable owl habitat. Because of the reduced amount and fragmented nature of suitable owl habitat, fire can have a negative influence and reduce the use of this habitat.

In the Pacific Northwest, an estimated 314 stocks of anadromous salmonids have been identified at risk, because of low or declining population numbers based on assessments by the American Fisheries Society and Oregon, Washington and California fish management agencies. Federal agencies share in the responsibility for managing habitat for 259 at-risk stocks (FEMAT II-36).

Anadromous salmon and steelhead runs extended from the ocean to the Upper Rogue River basin prior to the completion of Lost Creek Dam, with the farthest upward extent of anadromous migration in recent times being Mill Creek Falls.

A major issue currently is the future health and survival of anadromous fish stocks within the basin. The Rogue River basin is considered by the State to be one of the two highest priority systems in Oregon. The Rogue River's anadromous stocks include: Coho salmon (*Oncorhynchus kisutch*), both spring and fall chinook salmon (*O. tshawytscha*), summer and winter steelhead trout (*O. mykiss*), and sea-run cutthroat trout (*O. clarkii*). Of these, both coho and steelhead are presently under status review as candidates for federal listing as threatened species.

Current condition in all basins of Southwest Oregon show a reduction in the amount of early successional vegetation with snags and an increase in early successional vegetation without snags. Early successional acres increased in terrestrial systems and decreased in terrestrial systems and decreased in riparian systems. In aquatic systems pool frequency decreased and temperature increased. The direction of change is not surprising; it reflects management activities, fire prevention, successional changes and responses to current climate.

Although the Upper Rogue watershed has no anadromous fish, it is important as a source of cold, clean water for the lower basin.

NATURAL AND CULTURAL FEATURES

This Upper Rogue Watershed is very diverse in scenic beauty and kinds of natural and cultural features. These features have attracted visitors to the area for many years and are among the most prominent in southwestern Oregon.

Noteworthy among the natural features are:

* Crater Lake National Park
  - -- Crater Lake is the deepest, clearest lake in North America
  - -- The only National Park in Oregon
* Upper Rogue Wild and Scenic River
  - -- A congressionally-designated wild and scenic river
* Rogue-Umpqua Divide Wilderness
  - -- A federally-designated Wilderness area that is shared with the Umpqua National Forest
* Incised pumice canyons
  - -- A unique geologic feature in the United States
* Old-growth forest
  - -- A declining resource having unique habitat for dependent species, and increasing human value
* Takelma Gorge, Rogue Gorge, Natural Bridge
  - -- Dramatic geologic features where the Rogue River width and flow is confined within lava tubes

* Rabbit Ears

  -- A throat of an extinct volcano, a scenic wonder of the natural world

* Abbott Creek and Sherwood Butte (proposed) Research Natural Areas

  -- Areas set aside for study of unique natural habitats of plant communities

* Numerous waterfalls (National Creek, Muir Creek, Mill Creek, Alkali Creek, etc.)

* Boundary Springs, Sphagnum Bog, and Thousand Springs

  -- The origins of the Rogue River and Union Creek

* High alpine meadows (Hershberger, Long Prairie, Hummingbird, Alkali) and numerous wet meadows

  -- Ideal for viewing wildflowers and other unique plant communities

Important cultural features include:

* Unincorporated community of Prospect

  -- Site of historic Prospect Hotel and annual timber carnival

* Huckleberry City

  -- Traditional use area for huckleberry gathering

* Huckleberry Patch

  -- Historic sacred site for Cow Creek Band of Takelma tribes, determined eligible for the National Register of Historic Places

* Union Creek Historic District (National Register)

  -- Resort, cafe and former District office.

* Hershberger Lookout

  -- Historic site recently rehabilitated, potential use as overnight rental

* Crater Lake Rim Village/Lodge

-- Historic lodge recently rebuilt

* Historic wagon roads

* Dead Soldier Rock

-- vision quest site

* Developed interpretive sites

-- Rogue Gorge, Natural Bridge, Mill Creek Falls, Mammoth Pines

* Rogue-Umpqua National Scenic Byway

* Pacific Crest Trail

* Upper Rogue River Trail

HISTORICAL SETTING

-- Human habitation dates back at least 8,000 years. The Klamath, the Upper Umpqua, Molala, and the Takelma (including the Cow Creek Band, which inhabited territory in the South Umpqua watershed) are known to have used the area on a transitory basis.

-- Fire was a key element in manipulating vegetation for subsistence hunting by Native Americans.

-- European-Americans first reached southwest Oregon and the Bear Creek Basin in the early 1800's. These were fur trappers employed by the Hudson Bay Company; the French-Canadian trappers named the Indians of the vicinity "les Coquins", or "the Rogues," because of their aggressive defense of their homeland.

-- By 1870 settlement pressure for agricultural uses began to spread from the valley into the Upper Rogue area.

-- With the growing fame of Crater Lake and the hunting and fishing opportunities of the Upper Rogue, by 1890 recreation and tourism also increased.

-- The Cascade Forest Reserve, a precursor of the Rogue River National Forest, was established in 1893 and took in much of what is today the Prospect Ranger District.

- Human influence greatly increased during and after World War II with large areas of the watershed roaded, harvested and reforested, sometimes with less than satisfactory results.

- Local conflicts between commodity and amenity values began to surface with increased demand on multiple uses of the forests. Public opposition to harvesting led to preservation of the Hwy 62 corridor for its scenic value.

- Upland areas were dominated by late-successional mixed conifer and true fir forests.

- Modern settlement on the watershed, has impacted, shifted and encouraged many wildlife species.

- Settlement and development in the watershed accelerated the pace of vegetation manipulation encouraging early seral and edge dependent species.

SPECIAL FOREST PRODUCTS

Special forest products available in the watershed include:

- Firewood, Christmas trees, boughs, posts and poles, mushrooms, berries, medicinal and culinary herbs, floral greens, ornamental wood, conks and burls, shrubs for transplant, locatable minerals, and cull materials to be used for chips. Firewood gathering permits are now greatly restricted due to requirements for large woody material to remain on the site for long-term site productivity.

- *Pipsissewa* has a fairly well established market; it is used as a flavoring in soft drinks, notably Pepsi Cola. It is quite plentiful within the Upper Rogue watershed.

MINING

- Mining has played a relatively insignificant role in the Upper Rogue watershed. Numerous "active" mining claims do exist, especially in the Foster Creek area, but very little actual activity is on-going.

NATURAL RESOURCES

The Upper Rogue Watershed is an area of varied natural resources. Within its quarter million acres are vast coniferous forests, unique geological features, many recreational opportunities, high quality waters, and abundant fish and wildlife species. Following are highlights of the natural resources of the watershed.

GEOMORPHOLOGY

Western Cascades Province:

-- The Western Cascades province is roughly west and north of the Rogue River.

-- Earthflows are important processes. They are for the most part subactive but do exhibit local active areas.

-- Earthflows provide unique habitat for amphibians and reptiles.

-- Sixty percent of the Western Cascades Range has clay-rich soils, which compact easily.

-- Clay-rich soils generally do not respond well to restoration efforts once damaged.

-- Naturally high rates of runoff and erosion are due to impermeable soils and bedrock.

-- Groundwater commonly occurs within the soil profile.

-- Majority of entered stands exceed standards and guidelines for soil disturbance and compaction.

-- Tractor operation on steep slopes has impacted drainages.

-- Streams in the Western Cascades are susceptible to damage from management activities due to unstable land.

-- Some of the major streams have inadequate supplies of coarse woody material, aggraded channels, high water temperatures and lack of diversity of aquatic life due to past management practices.

-- Streams originating in the Western Cascades exhibit low summer flows.

-- Streams provide 35% of the water in the Upper Rogue River.

Conditions to be aware of and to prescribe for when managing the Western Cascades:

* Steep highly-dissected slopes

* Unstable slopes and erosive soils with clay structure

* Lack of large woody material in many areas

* Need to provide bank stability throughout area

* Simplified habitat in lower reaches of major streams

* Interrupted perennial flows exist in area

* May be some opportunity to manipulate riparian buffers to provide better future conditions

High Cascades Province:

-- The High Cascade Range generally occupies the area south and east of Highway 62.

-- Water temperatures rarely exceed 15°C (59°F).

-- Streams have steady flows of water that is very high in quality and very cold throughout the year.

-- Majority of entered stands exceed standards and guidelines for soil disturbance and compaction.

-- Compacted soils generally do not respond to restoration.

-- Tractor operation on slopes has impacted drainages.

-- Relatively flat topography except in glacial and incised pumice canyons.

-- Soils have high stone and boulder components.

-- Glacial tills have low permeability rates, can create wetlands after disturbance.

-- South aspects have droughty soil characteristics.

-- Lateral moraines have shallow soils on crests.

-- Semi-wet to wet meadows in upland glacial valleys.

Conditions to be aware of or to prescribe for when managing the High Cascades:

* Glacial valleys with wetlands and springs
* Steep, unstable canyon walls
* Need for continued supply of coarse woody material for channel stability and riparian ecosystem.
* Lower reaches may not need riparian reserves as wide as Aquatic Conservation Strategy (ACS) standard for streams depending on site specific needs.
* Intermittent streams may be unstable.
* Buffers along intermittent streams may need to exceed ACS standards depending on site specific conditions.

Mazama Pumice Province:

-- This area is roughly south and east of the Rogue River.

-- Pumice deposit varies in thickness from 1 to 300 feet.

-- Majority of entered stands exceeds standards and guidelines for soil disturbance and compaction.

-- Pumice soils prone to frost damage due to low conductive heat rates.

-- Large deposits of sand derived from reworked pumice and basaltic material.

-- Pumice and sand areas have very shallow top soil.

-- Pumice and sand soils are sensitive to organic material removal.

-- Streams tend to be clear and cold with steady flows.

-- Pumice and sand have little water holding capacity.

-- Pumice soils are not high in nutrients and are marginally deficient in calcium and magnesium, needed by Douglas-fir.

-- Stream channels have developed deep canyons with steep sideslopes.

-- Streams generally are undisturbed by management activities.

-- Fish production is low due to relatively low temperatures and generally low nutrient levels.

-- Water clarity is one of the Outstandingly Remarkable Values for the Wild and Scenic Upper Rogue River.

-- Water quality in streams on the National Forest System lands should present no problems with standard treatment for downstream users.

Conditions to be aware of or to prescribe for when managing the Mazama Pumice:

* Potentially unstable steep pumice canyon walls.

* Large woody material needs in the channels for stability and habitat.

* Riparian reserve (buffer) widths commonly need to exceed ACS recommendations;

* Riparian reserve (buffer) widths always need to include entire extent of canyons, including an area back from the break-in-slope into the canyon.

THE FOLLOWING SECTIONS ARE IN REGARD TO ALL AREAS

SLOPE STABILITY

-- At present soil raveling on the slopes and debris slides in the drainages are the primary mass wasting processes at work.

-- Massive landslide scarps, benches and related geomorphic features are largely subactive except near the break-in-slope of earthflow benches and streams adjacent to and on these features, where debris torrents still occur.

-- Virtually all stream channels on slopes over 20% in the watershed were originally carved by debris flows under natural conditions.

-- Unstable land provides specialized habitat for many plant and animal species.

-- The High Cascades Province is fairly stable, with two exceptions:

  * The contact between the High Cascades and the Western Cascades

  * Over-steepened canyon walls (glacial or incised pumice canyons).

HYDROLOGY

-- Runoff in streams tends to be rainfall dominated in the western portion of the watershed and snowmelt dominated in the eastern portion.

-- Runoff at the lower end of the watershed averages 35.5 inches/year or about 591,000 acre-feet/year. This is about eight percent of the total yield in the Rogue River.

-- Beneficial uses for water in the watershed include domestic, stock watering, mining, fish, wildlife, recreation, aesthetics, and power at Lost Creek Lake which is immediately below the watershed analysis area.

-- There are no water quality limited streams, as defined by the Clean Water Act, within the watershed.

RIPARIAN RESERVES

-- The total area of land classified as riparian reserves in the President's Forest Plan is 62,200 acres. This figure is an underestimate of the actual amount of riparian on the watershed.

-- A total of 17,570 acres of the riparian reserves have been entered by timber harvests and would not meet the ACS guidelines. This is 28 percent of the total land in the riparian reserves.

-- Pending site specific surveys, the boundaries of the riparian reserves should be set as specified in the President's Forest Plan.

-- Conditions of the riparian reserves within the watershed vary from poor to excellent.

-- Streams such as Lost Creek which exhibit interrupted perennial flow should be treated as perennial streams for the purpose of designating riparian reserve boundaries.

-- Glaciated terrain -- upper Ginkgo Creek, upper Mill Creek -- typically have many springs adjacent to the stream channels. Riparian reserve widths should be wide enough to encompass these features.

-- For stream channels originating on Huckleberry Mountain, designation of riparian reserves should consider their role in maintenance of channel stability through root strength and as suppliers of large woody material.

-- Channels that occupy avalanche chutes frequently have watersheds that are narrower than the width prescribed in the President's Forest Plan. Riparian reserve widths on adjacent streams in these areas will often overlap. Site specific designation of riparian reserve widths should be made.

-- Project level work should verify stream class, presence of fish, and specify specific riparian reserve boundaries.

Prescriptions of riparian reserve widths should consider the following riparian functions:

* Filter to prevent sediment from entering streams
* A source of large woody material
* Shade the stream
* Unique habitat for terrestrial organisms e.g., herpetofauna
* Contribute photosynthetic materials --- primary production --- to the food web
* Serve as zones for water storage
* Unique aquatic habitat for fish and other aquatic organisms e.g., storm refuge
* Link aquatic and terrestrial environments
* Armor stream banks and influence channel morphology

* Increase deposition of sediment and wood on flood plains

* Influence the microclimate of the aquatic/riparian habitat

FISHERIES

-- Native salmonid fish stocks in the Upper Rogue River are cutthroat trout and rainbow trout.

-- Eastern brook trout and European brown trout were introduced in the early 1900's.

-- Oregon Department of Fish & Wildlife (ODF&W) stocks the watershed with hatchery rainbow and brook trout.

-- Figure AQ-8 (aquatic section of the appendix) represents the extent of probable fish-bearing stream reaches within the Upper Rogue Watershed.

-- Loss of spawning and rearing habitat has occurred.

-- Historically, streams were more complex (more variety of habitat, e.g., pools, riffles, glides, more wood) than today. Past management practices have tended to simplify fish habitat.

-- Loss of habitat is also due to urbanization and irrigation diversions.

-- Large woody material averages less than 20 pieces per mile.

-- Generally low water temperature combines with relatively low nutrient levels to significantly limit fish growth.

-- Diverse salmonid habitat is lacking in much of the middle and lower sections of the Scenic portions of the river.

Habitat typing and fish population surveys have been completed for approximately 60% of the streams within the Upper Rogue watershed, between 1990 and 1993 (see reports and appendices available at Prospect Ranger District).

Major factors limiting fish production within this watershed include:

* Cold water

* Relative lack of nutrients within many streams

* Low amounts of large woody material (Figure AQ-7)

* Few pools (Figure AQ-9)

* High percentage of fine sediment

* Reduced riparian cover

TERRESTRIAL WILDLIFE

-- Fragmented habitat provides poor dispersal mechanisms for many species within the watershed.

-- Increased fragmentation will favor competitors and predators of the northern spotted owl.

-- Further impacts to suitable owl habitat within matrix lands will affect the viability of local owl sites.

-- Organochlorine contaminants continue to plague the recovery of the American peregrine falcon.

-- High road densities continue to impact wolves, elk, wolverines, fishers and martens.

-- Removing or affecting standing dead tree habitat continues to impact the avian and mammalian communities that depend on this important habitat for a significant portion of their life cycles.

-- Entering "roadless" areas reduces the amount of seclusion and increases the amount of public intrusion on wolverines, wolves, and fishers.

-- Lack of baseline inventory on many of the species in the watershed continues to hinder our ability to assess the effects of our management actions.

-- Impacts to wetlands and riparian systems will continue to negativlye affect many mammalian, reptilian, amphibian and avian species.

CLIMATE

-- The climate is a droughty Mediterranean-type with generally mild wet winters and warm dry summers.

- Annual precipitation ranges from 40 inches to 80 inches.

- Approximately 72 percent of the annual precipitation occurs during the months of November through March.

- Major flood events are infrequent.

Climatic Effects on Wildlife and Vegetation

- The interaction of geology, climate, soils and history of disturbance have produced a complex landscape of diverse vegetation; the interrelationship determines a species' survival.

- Moisture and temperature, not light, seem to be the limiting environmental factors that most influence stand composition and vegetational succession in southwestern Oregon.

- Relatively drought-resistant Douglas-fir reproduces and grows well in partial shade, usually without being overtopped by more shade-tolerant, but less drought-resistant species, such as western hemlock, white fir and Shasta red fir.

- In southwestern Oregon, Pacific madrone, chinquapin and Oregon white oak often form a symbiotic relationship with Douglas-fir, for which they serve as nurse covers.

- Moisture distribution across the landscape (alternating wet and dry seasons) influences the reproductive and activity cycles of organisms as much as light and temperature does in the temperate regions. Moisture can affect plant distribution on a local level or can influence it across wide geographical regions.

- Moving a species to more severe sites than where it is naturally found can make it susceptible to insects, diseases, weather disturbances and growth production much less than its potential.

- Wind affects the height of plants and plays a secondary role in the distribution of small mammals. High winds are rare. Significant disturbance from the Columbus Day storm of October 12, 1962, was isolated.

VEGETATION

- There are at least 13 commercial conifers in six plant series (which are further divided into plant associations) within the Upper Rogue watershed.

- The watershed is a portion of the Cascade Physiographic Province for vegetation and is further subdivided into the Rogue Western Cascade Subprovince (mixed conifer forests) and the Rogue High Cascade Subprovince (true fir-hemlock forests). Mixed conifer forests occur on drier sites and at lower elevations. True fir-hemlock forests occur at the higher elevations on mid and upper slopes.

- The health of the Upper Rogue forests is tied to the management of disturbance processes.

- Soil compaction has greatly reduced the tree growth of many of the forest stands.

- Fire exclusion has been forest policy since shortly after the turn of the century.

- Fire was a key element in manipulating vegetation for subsistence hunting by Native Americans.

- Silvicultural activities can prolong or accelerate stand initiation, stem exclusion, understory reinitiation, and old growth stages.

Many of the rare plant populations that exist currently in the watershed are those that are found in unique areas such as rock outcrops, scablands, wetlands, seeps and moist meadows. Almost every habitat found within the watershed has potential for rare plant populations.

- There are 14 species of plants on the "sensitive" list, 5 species on the "watch" list, and 1 species on the "review" list in the Upper Rogue watershed.

- Non-native invasive and noxious weeds occur in the Upper Rogue watershed and pose a threat to the local native plant community gene pool.

- Harvesting from 1940 through the mid-1970's promoted even-aged stands dominated by pioneer tree species. Harvesting since the mid-1970's has shifted to more uneven-aged or selection harvesting, creating stands with greater structural and species diversity.

- Selective harvesting and multiple entries in forest stands have increased root disease inoculum levels and increased compaction.

- Insects and pathogens are active in the Upper Rogue watershed. Most notable are impacts from dwarf mistletoe, root rots, pine beetles, and white pine blister rust.

- Frost is a serious inhibitor to seedling establishment and growth throughout much of the Rogue River watershed.

-- Pocket gophers, deer and elk are serious inhibitors to seedling establishment, causing growth loss and sometimes mortality in the Upper Rogue watershed.

RANGE

-- Cattle use in the Upper Rogue watershed has occurred since the 1890's.

-- Management of forage in the Upper Rogue watershed has caused major changes in the native plant composition.

-- Grazing effects on streambanks include compaction, instability and destruction of streambanks.

-- Cattle consume riparian vegetation and prevent new seedling establishment through browsing, compaction, and trampling. Damage to streams is seen throughout the watershed.

-- Overgrazing of riparian areas can be witnessed throughout the watershed.

-- Cattle pose a problem in Crater Lake National Park where their use is considered trespass. The Upper Rogue watershed lacks fences or barriers to cattle movement into the Park.

-- Recent planning efforts have resulted in new allotment management plans, reduced the number of cattle, and should result in fewer impacts from grazing. These plans were written to conform with the ACS.

RECREATION

-- There is a wealth of unique recreational and natural resources within the Upper Rogue watershed.

-- Gathering of edible mushrooms has long been a popular recreational activity.

-- Gathering of huckleberries dates back to prehistoric times as a major food source of the Native Americans and continues to be a major recreational activity.

-- Huckleberry survival and production following the Huckleburn Timber Sale is being monitored.

-- Recreational use of the Forest and of Crater Lake National Park continues to grow and spur conflicts about land and resource management along the boundary of the two.

FUTURE TRENDS

RECREATION

-- Recreation use of the watershed will increase.

-- The demand for mushrooms is expected to continue to increase in the future. Little is known about the recovery of fungal component of the watershed.

-- More streams will meet the criteria for Wild and Scenic status.

WATER

-- Water quality is projected to remain high. There will be additional requirements for water quality monitoring to document this.

-- Demand for water in the Rogue River Basin will increase and it will be necessary for the Forest Service to quantify its water needs and uses.

-- Watershed restoration will be an important program for the Forest Service. The emphasis will continue to focus on identification of water and fish related problems and providing long-term solutions to them.

TERRESTRIAL WILDLIFE

-- More species will be given attention rather than the select few "charismatic" ones that are currently receiving all the attention.

-- The rate of change in late-successional/old-growth forest habitats is declining and is shifting more toward maintenance of this important habitat in the future.

-- There will be an emphasis on ecosystem health and maintaining connective habitat to transfer genetic information across the landscape.

-- Recreational user-days will continue to increase exponentially further stressing our faunal resources.

-- The public will become more interested in ecosystem management versus single species management as species continue to be listed or go extinct.

FISHERIES

-- Fish user-days are expected to double on the Forest within 50 years.

-- Riparian restoration projects will serve to stabilize the system and restore natural functions.

-- There will be an emphasis on the management of native stocks.

-- There will be increased cooperation between the Forest Service and ODFW for the management of fisheries.

-- Restoration projects will improve habitat conditions, stabilize the aquatic ecosystem, and restore natural functions.

SOILS AND GEOLOGY

-- It is likely that problems associated with soil ravel and compaction will continue for some time as delayed effects of harvest methods continue to accrue.

-- If soil displacing and compacting activities continue into the future then these problems will continue to increase in severity.

-- These effects will decrease as results of ongoing rehabilitation projects progress.

-- Southern Oregon has been in a drought for eight of the last nine years which has helped the slopes stabilize. However, when the moist conditions return, soils there may develop a short-term increase in erosion and landsliding potential.

RANGE

-- New range allotment management plans will require more control of grazing within the watershed, especially in riparian areas.

-- There will be fewer cattle permitted to graze on the National Forest.

RECOMMENDATIONS

After several decades of management of the Forest for timber, grazing, and recreation, the character of the land within the watershed has changed dramatically. In general terms, the watershed can be classified as degraded from natural conditions. Throughout the

watershed there is a high density of roads, which have altered natural drainage -- increased peak flows, transferred runoff from one drainage to another, blocked fish access to sections of streams -- and have resulted in a lowering of the quality of aquatic resources in the watershed. Timber harvesting has changed wildlife habitat as well as the forest plant community.

The ecosystem based management of the President's Forest Plan, Endangered Species Act, Clean Water Act, National Environmental Policy Act, etc. requires different management schemes that will allow some production of commodities while still providing for protection of other resources of the forest such as terrestrial wildlife habitat, aquatic wildlife and fish habitat, water quality, and aesthetic values.

Within the various land allocations of the President's Forest Plan are plantations that were created with timber harvest entries and overly dense natural stands. The Plan has expectations that specified ecological conditions, e.g. in the Late Seral Reserves and riparian reserves, will be attained over time. Without active management of the plantations and other stands, it is not likely that these desired conditions will be attained.

The general resource recommendations that follow pertain to land throughout the watershed. Following those, there are descriptions of current conditions and recommendations for projects in each of the 27 Watershed Analysis Areas. These should be used to guide planning activities in the future.

VEGETATION:

* Stand management should be encouraged on non-matrix lands (LSR and riparian reserves) to manipulate stand densities to promote multi-canopied stands, maintain or increase the stand composition of shade intolerant and seral species, and to prevent or slow the spread of insects and disease.

* Fire can be utilized to clean and open stands to encourage regeneration and a multi-canopied structure.

* Stand management on non-matrix lands should also convert stands composed of off-site pine plantations (unknown seed source trees planted in the 1950's and 1960's), or non-native plant communities, to stands of diverse species adn varied structures which will provide habitat for the species of plants and animals naturally found in this watershed.

  The opportunities described above exist also on Matrix designated lands with the LRMP strategy 14 for Big Game Winter Range (restricted Matrix lands).

* Opportunities exist to maintain and improve soil productivity through ripping of sites compacted by past forest management activities, fertilization, and incorporation of

large woody material. Manipulating stands to promote multi-canopied structures and a greater diversity of natural plant communities will allow for a greater chance to recruit snags and woody material in the future.

* Stand management on non-Matrix and restricted Matrix lands cannot be given a predicted volume production determined by acreage. Silviculture within these areas should serve ecosystem health and wildlife habitat needs as determined by a team of forest resource managers on a local level regardless of probable sale quantity (PSQ) for the Forest.

FISHERIES

* Provide for a variety of habitats within the stream.

* 7-day maximum water temperature of 65°F.

* Maximum embeddedness of substrate: 20% in riffle areas.

* Nutrient levels - at background levels.

* Primary pool frequency - 25 to 60 pools per mile.

* At least 20 pieces of large woody material per 1,000 lineal feet (100/mi.)

* Riparian vegetation: 80% stream shading or maximum site potential.

* Riparian ground cover: 85 trees/acre with minimal basal area of 250 sq. ft./acre with at least 90% being conifers or maximum site potential.

* Management of fish habitat in Wild & Scenic River sections (as per W&S plan for the Wild & Scenic Upper Rogue River).

  -- Wild - No structures; rehabilitate riparian areas damaged by man's activities.

  -- Scenic - Structures in tributaries are allowed with recommendations for riparian rehabilitation.

* Monitor results of stream and riparian restoration projects.

STREAMS

* Inventory the watershed for watershed restoration needs. The focus of the inventory should be on processes that are not working properly and on providing long-term remedies to restore function to them.

* Be proactive in managing riparian reserves. Leaving them alone may not result in attainment of the ACS objectives.

* Complete habitat and riparian surveys for all fish-bearing streams.

* Complete assessments on all major streams within the watershed for wild and scenic values.

* Continue and expand the water quality monitoring program.

* Expand the Level II stream inventory into non fish-bearing perennial and intermittent streams.

SOILS AND GEOLOGY

* Monitor for past and future effects on soils for all activities.

* Interact with other disciplines in management plans and activities.

* Develop site specific restoration projects.

* Ground-based yarding (tractors and one-end suspension) should be limited on clay-rich or wet soils. Full-suspension cable systems and heilcopters are the preferred method of yarding on these soils.

* Armor existing and planned road surfaces and drainage structures on sensitive soils and/or unstable lands.

* Restore unstable lands near riparian zones which continue to deposit materials directly into streams.

* Expedite closing and decommissioning of unneeded Forest Service Roads based upon long term transportation planning needs.

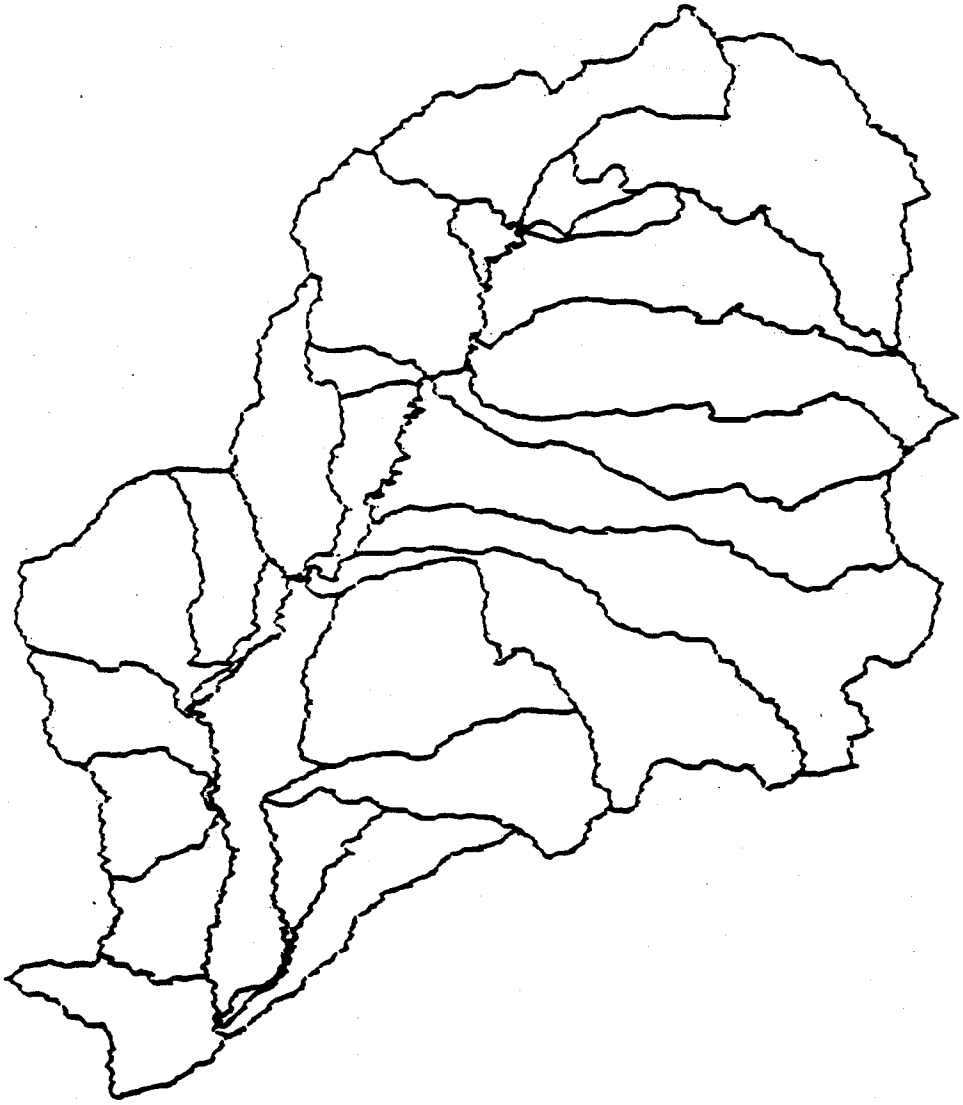
* Numerous data gaps occur in slope stability mapping. Detailed slope stability mapping and SRI updates are necessary prior to any land management activities or implementation of any projects.

WATERSHED

ANALYSIS AREA

SUMMARIES

Upper Rogue River Watershed with Watershed Analysis Area (WAA) boundaries.



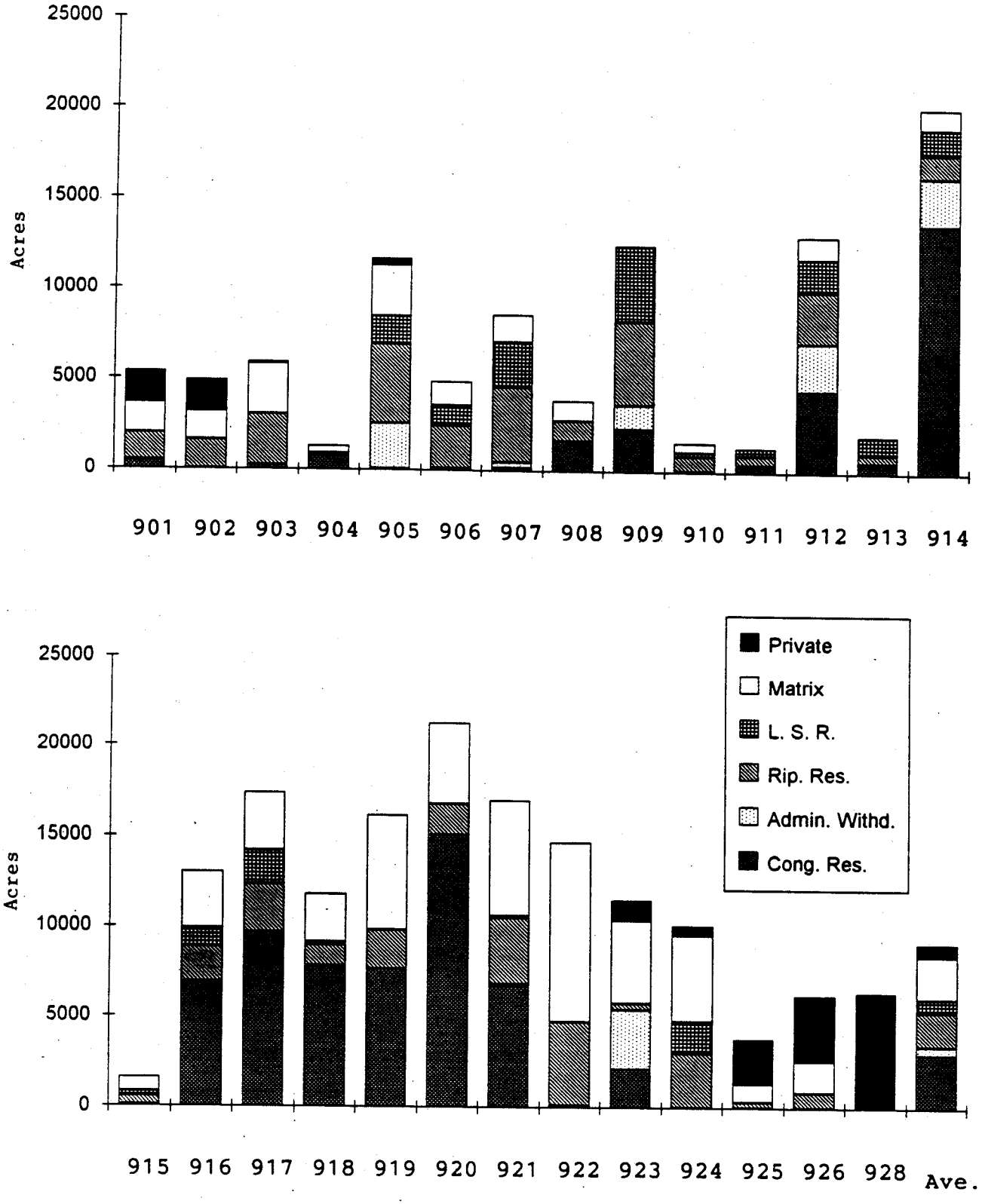
This section of the Report presents statistical summaries, assessments of current conditions and recommendations for each of the 27 Watershed Analysis Areas (WAA's) within the Watershed, listed below.

Watershed Analysis Areas

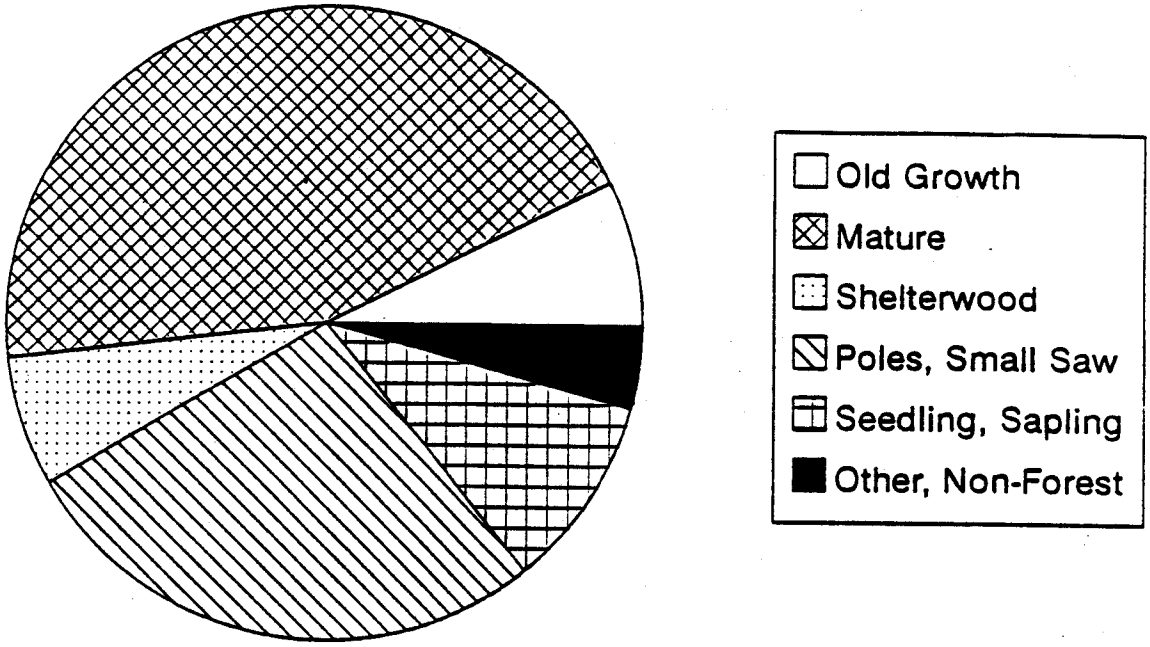
ID	Area Name	Acres
0901	Larson Creek (Includes Deep, Lund and Graham Creeks)	5,364
0902	Kiter Creek (Includes Needle and Cedar Creeks)	4,866
0903	Jim Creek (Includes Top, Hop and Littlemite Creeks)	5,882
04	Flat-Abbott	1,278
0905	Abbott Creek	11,646
0906	Woodruff Creek	4,848
0907	Flat Creek	8,542
0908	Browns Creek	3,864
0909	Foster/Hershberger	12,454
0910	Prairie Creek	1,596
0911	Lost/Meadow	1,352
0912	Muir Creek	13,040
0913	Hamaker Creek	1,988
0914	Upper Rogue (Includes Mazama and Cascade Creeks)	20,212
0915	Hurryon Creek	1,622
0916	National Creek	13,002
0917	Crater/Bert/Wizard	17,386
0918	Copeland Creek	11,774
0919	Bybee/Rock/Deer	16,126
0920	Castle/Whiskey	21,310
0921	Union Creek	17,010
0922	Upper Mill Creek	14,696
0923	Lower Mill Creek	11,546
0924	Ginkgo Creek	10,124
0925	Sink Creek	3,830
0926	Barr Creek	6,266
0928	Skookum Creek	6,438

Data for all charts and tables were derived from UTOOLS, a pixel oriented planning database in Paradox. Data for the watershed were down-loaded from MOSS to a PC and installed in UTOOLS. Because of the size of the watershed, a pixel size of two acres was used which limits the accuracy of the model.

Land allocations within the Watershed Analysis Areas.



Condition Class
Upper Rogue Watershed



Upper Rogue Watershed

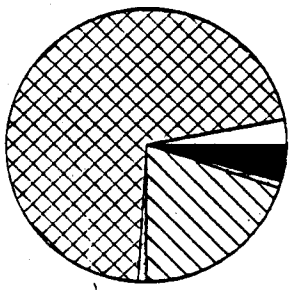
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	2,474	1,596	7,842	3,044	3,256	108	18,320
Mature	57,500	7,012	19,060	6,422	18,606	1,556	110,156
Shelterwood	728	208	4,048	2,486	8,698	292	16,460
Poles, Small Saw	15,914	3,222	10,776	3,368	22,980	11,964	68,224
Seedling, Sapling	650	114	7,192	3,102	10,818	2,368	24,244
Other, Non-Forest	3,468	976	2,538	768	1,074	1,836	10,660
Total:	80,734	13,128	51,456	19,190	65,432	18,124	248,064
(Row Percents)	33%	5%	21%	8%	26%	7%	100

(Column Percents)

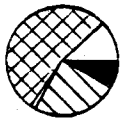
Old Growth	3%	12%	15%	16%	5%	1%	7%
Mature	71%	53%	37%	33%	28%	9%	44%
Shelterwood	1%	2%	8%	13%	13%	2%	7%
Poles, Small Saw	20%	25%	21%	18%	35%	66%	28%
Seedling, Sapling	1%	1%	14%	16%	17%	13%	10%
Other, Non-Forest	4%	7%	5%	4%	2%	10%	4%
Total:	100%	100%	100%	100%	100%	100%	100%

Condition Class by Allocation

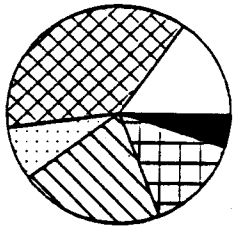
Upper Rogue Watershed



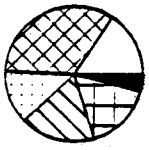
Congr. Res.



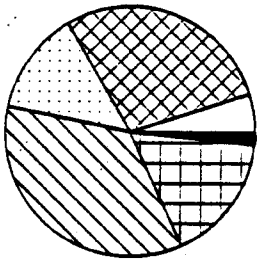
Admin. With.



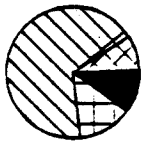
Riparian R.



L. S. R.

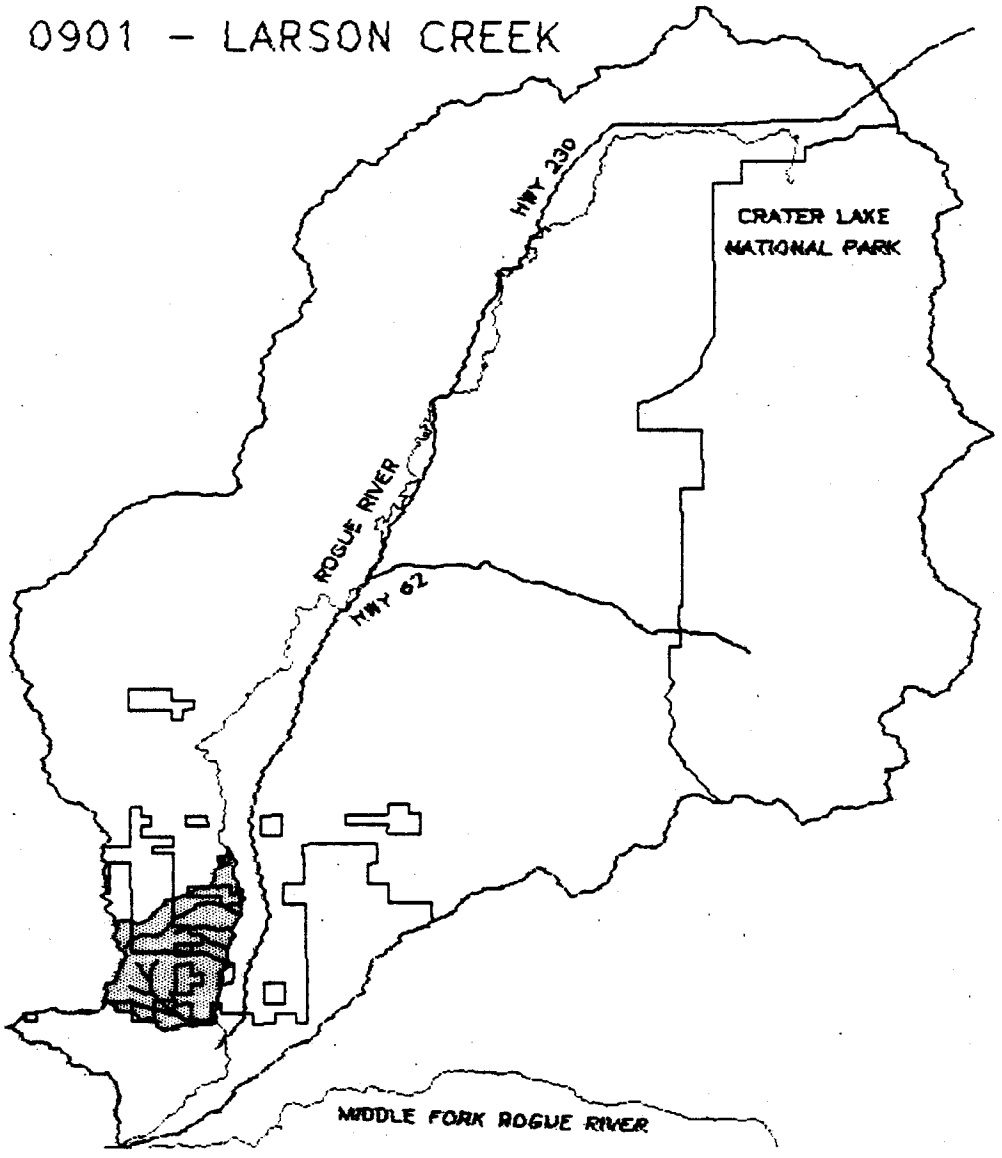


Matrix



Private

0901 - LARSON CREEK



0901 - Larson Creek

Current Conditions and Recommendations

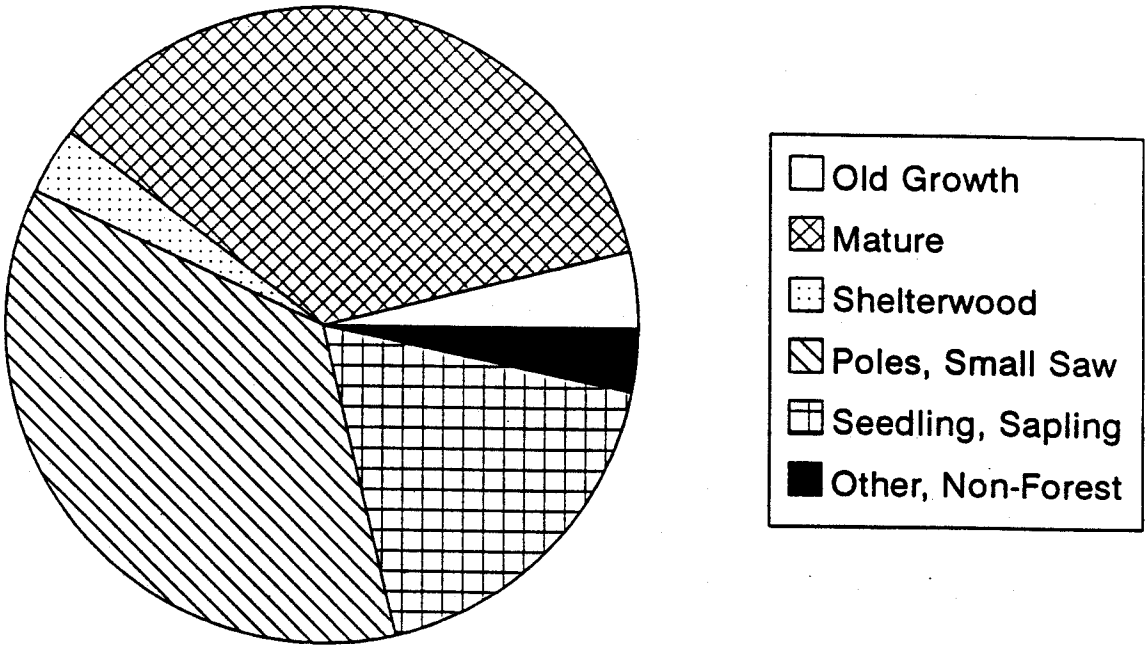
CURRENT CONDITIONS:

Vegetation:	**GOOD**	Good regeneration and average growth, timber harvesting 1974-1990, shelterwoods predominate harvested areas
Soils:	**FAIR**	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted or displaced on flats from skid trails and machine piling, displaced on slopes. Turbid runoff.
Aquatics:	**FAIR**	Lack of general structure within stream, lack of pools, lack of hiding cover, lack of spawning gravels
Hydrology:	**FAIR**	78% recovery, compacted soils, altered drainages
Wildlife Habitat:	**POOR**	Lack of late successional forest, high road density, lack of quality forage
OVERALL:	**FAIR**	

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control
- Stream structures
- Check culvert angles, gradient drops
- Multi-story development
- Reduce road density
- Create long-term forage base
- Riparian silviculture
- Instream habitat restoration: add LWM, boulders
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.
- Road and Drainage Improvements on road 6400400 at milepost 0.58.
- Road (cut and fill slope stabliz./reveg.) and drainage improvements (culverts) on road 64 at milepost 9.6.
- Drainage Improvements (culvert and stream bed armoring) on road 6400400 at milepost 0.64.
- 0.8 miles of road and drainage improvements on road 6400190 at milepost 0.64.

Condition Class
0901 - Larson Creek



0901 - Larson Creek

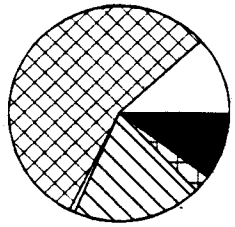
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	56	0	42	0	80	30	208
Mature	266	0	568	0	788	308	1,930
Shelterwood	4	0	64	0	84	28	180
Poles, Small Saw	90	0	502	0	450	866	1,908
Seedling, Sapling	12	0	278	0	210	462	962
Other, Non-Forest	48	0	30	0	56	42	176
Total:	476	0	1,484	0	1,668	1,736	5,364
(Row Percents)	9%	0%	28%	0%	31%	32%	100

(Column Percents)

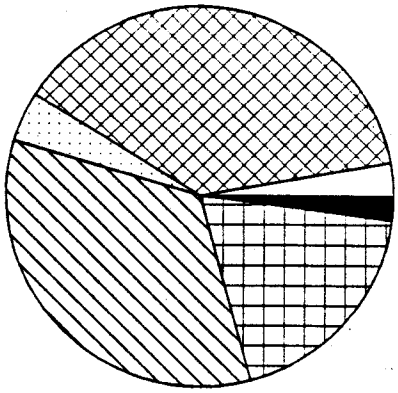
Old Growth	12%	-	3%	-	5%	2%	4%
Mature	56%	-	38%	-	47%	18%	36%
Shelterwood	1%	-	4%	-	5%	2%	3%
Poles, Small Saw	19%	-	34%	-	27%	50%	36%
Seedling, Sapling	3%	-	19%	-	13%	27%	18%
Other, Non-Forest	10%	-	2%	-	3%	2%	3%
Total:	100%	-	100%	-	100%	100%	100%

Condition Class by Allocation

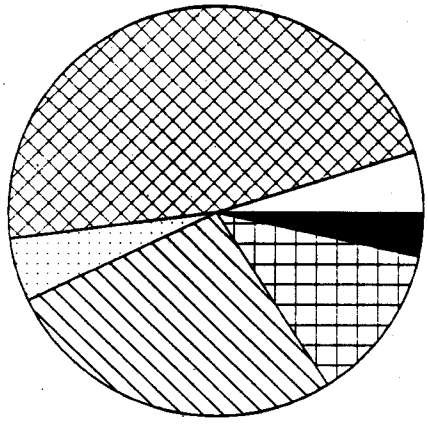
0901 - Larson Creek



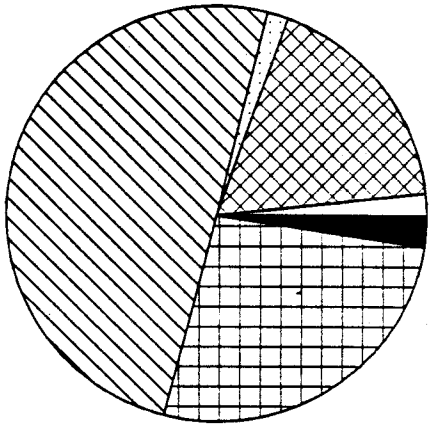
Congr. Res.



Riparian R.

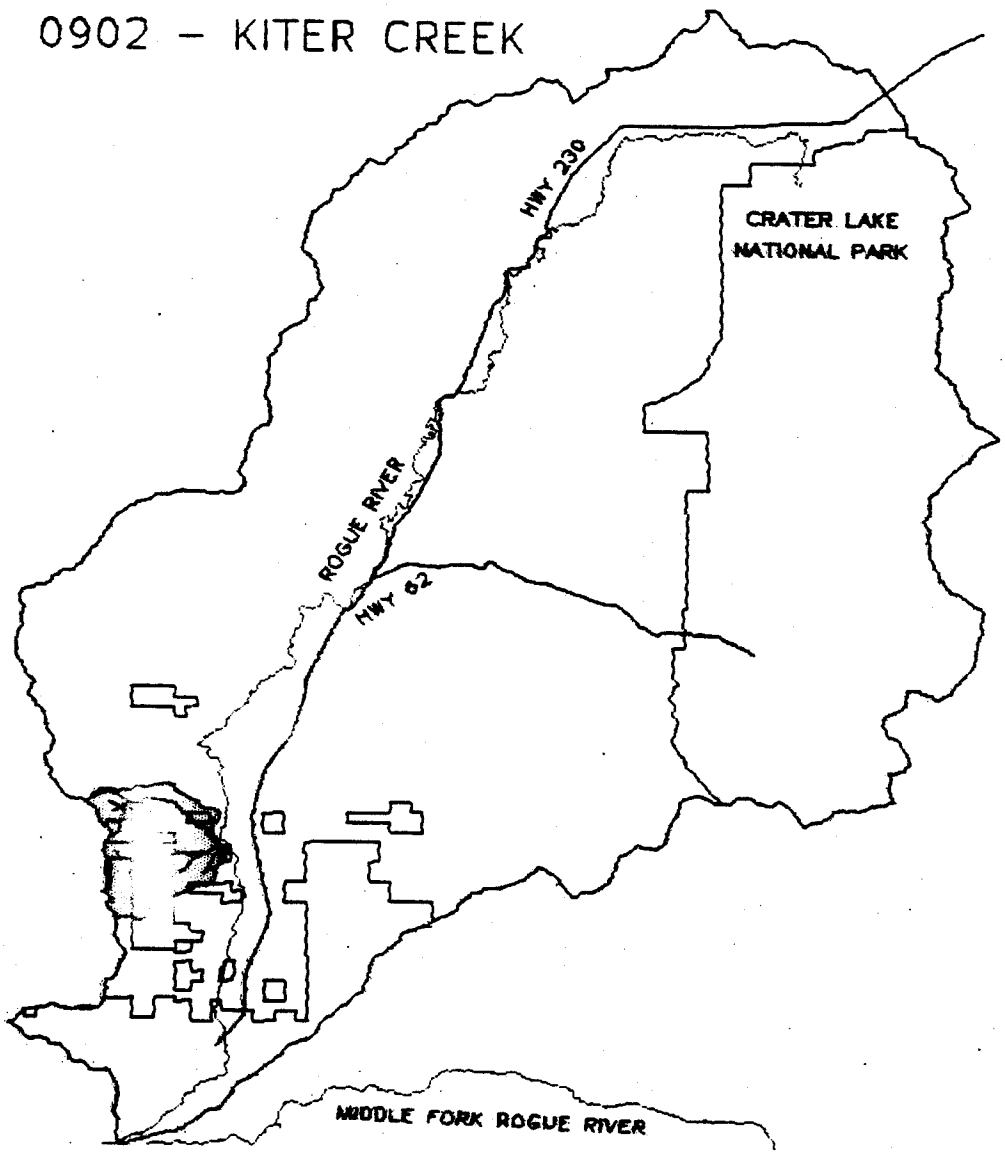


Matrix



Private

0902 – KITER CREEK



0902 - KITER CREEK

Current Conditions and Recommendations

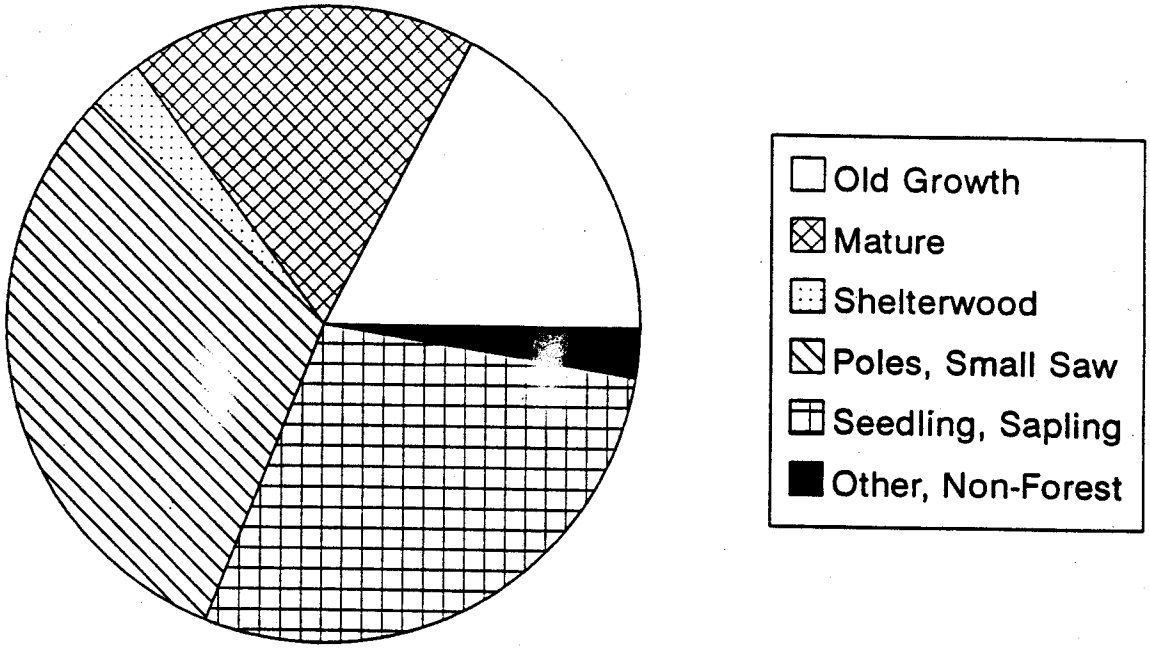
CURRENT CONDITIONS:

Vegetation:		
	FAIR	Frost, compacted soils reduced growth rates, timber harvesting 1961-1993, shelterwoods predominate harvested areas
Soils:		
	FAIR/ POOR	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted and/or puddled on flats from skid trails and machine piling, displaced on slopes. Turbid runoff.
Aquatics:		
	POOR	Riffle dominated, low summer flows, warm temperatures
Hydrology:		
	POOR	35% recovery, roads very close to streams, undersized culverts
Wildlife Habitat:		
	POOR	Lack of late successional forest, high road density, lack of quality forage, private ownership in key elk management area
OVERALL:		
	POOR/FAIR	

RECOMMENDATIONS:

- Rehab/culvert work and roading condition upgrade
- Encourage growth of existing plantations (fertilization, stocking level control)
- Gopher control of understocked plantations
- Limit harvest to aid recovery
- Multi-story development
- Reduce road density
- Create long-term forage base
- Obtain private land parcel
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.
- Drainage Improvements (culvert and stream bed armoring) on road 6400700 at milepost 1.79.
- Road and Drainage Improvements and road closure (gate) on road 6400695 at milepost 0.32.
- Major corrugated metal pipe (fish passage) Improvement and fill slope armoring and/or revegetation on road 6400800 at mile 0.32.

Condition Class
0902 - Kiter Creek



0902 - Kiter Creek

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	6	0	390	0	428	24	848
Mature	0	0	348	0	342	176	866
Shelterwood	0	0	56	0	78	0	134
Poles, Small Saw	0	0	402	0	154	958	1,514
Seedling, Sapling	0	0	394	0	516	470	1,380
Other, Non-Forest	0	0	8	0	28	88	124
Total:	6	0	1,598	0	1,546	1,716	4,866
(Row Percents)	0%	0%	33%	0%	32%	35%	100

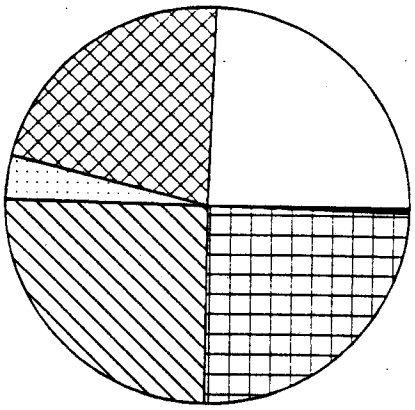
(Column Percents)

Old Growth	100%	-	24%	-	28%	1%	17%
Mature	0%	-	22%	-	22%	10%	18%
Shelterwood	0%	-	4%	-	5%	0%	3%
Poles, Small Saw	0%	-	25%	-	10%	56%	31%
Seedling, Sapling	0%	-	25%	-	33%	27%	28%
Other, Non-Forest	0%	-	1%	-	2%	5%	3%
Total:	100%	-	100%	-	100%	100%	100%

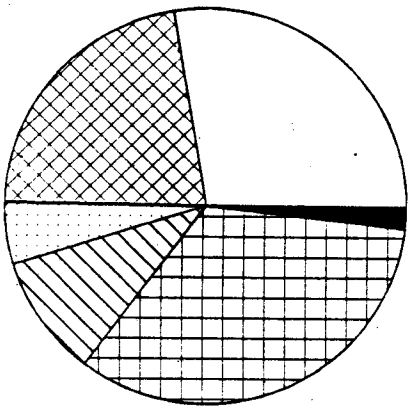
Condition Class by Allocation

0902 - Kiter Creek

Congr. Res.



Riparian R.



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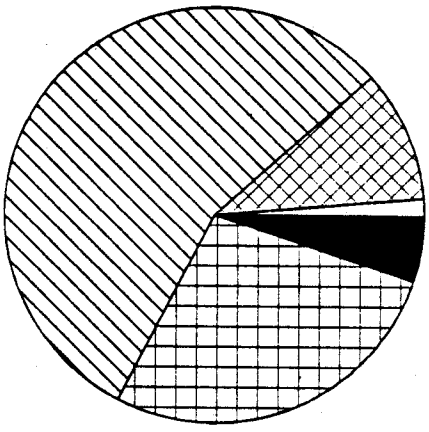
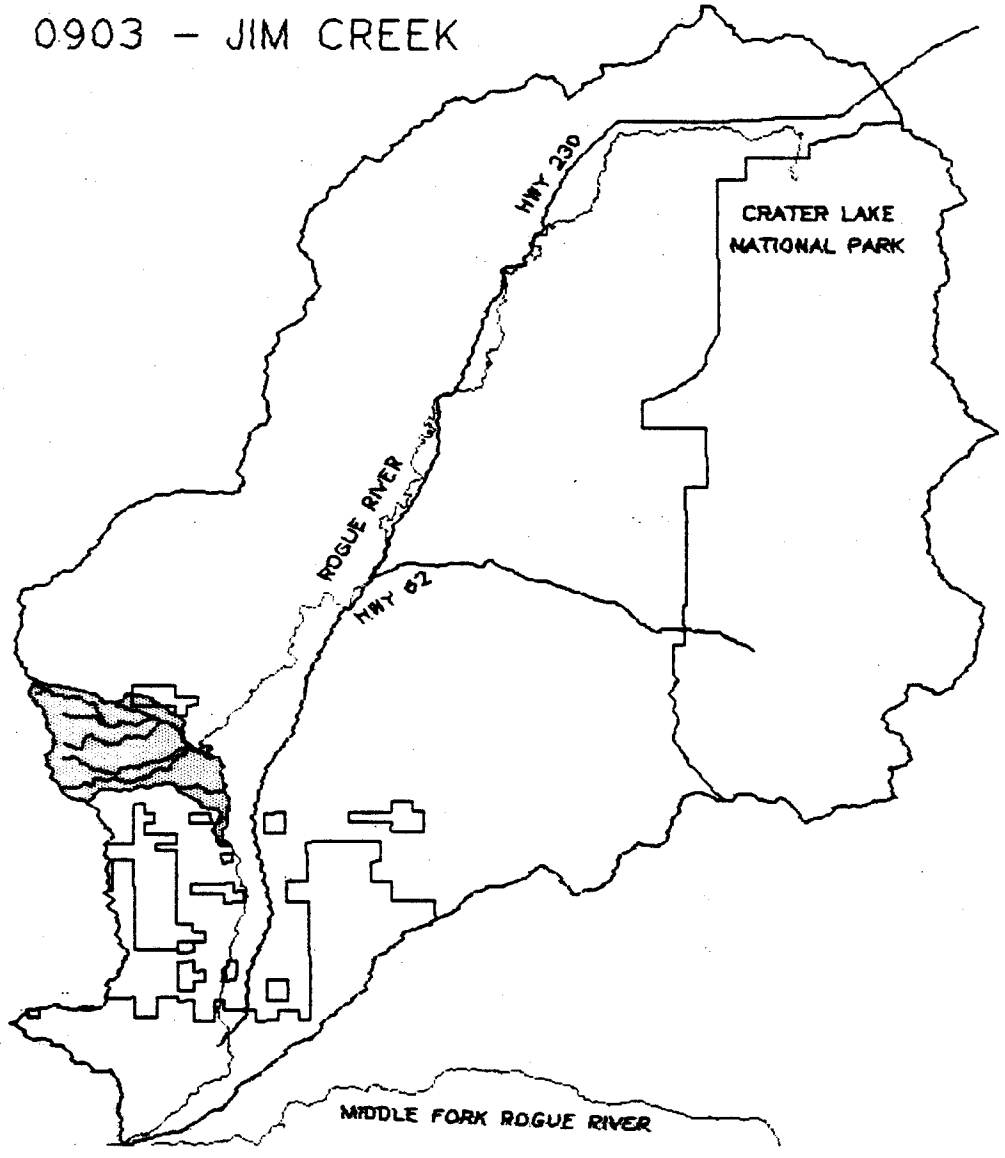


Private

0903 – JIM CREEK



0903 - JIM CREEK

Current Conditions and Recommendations

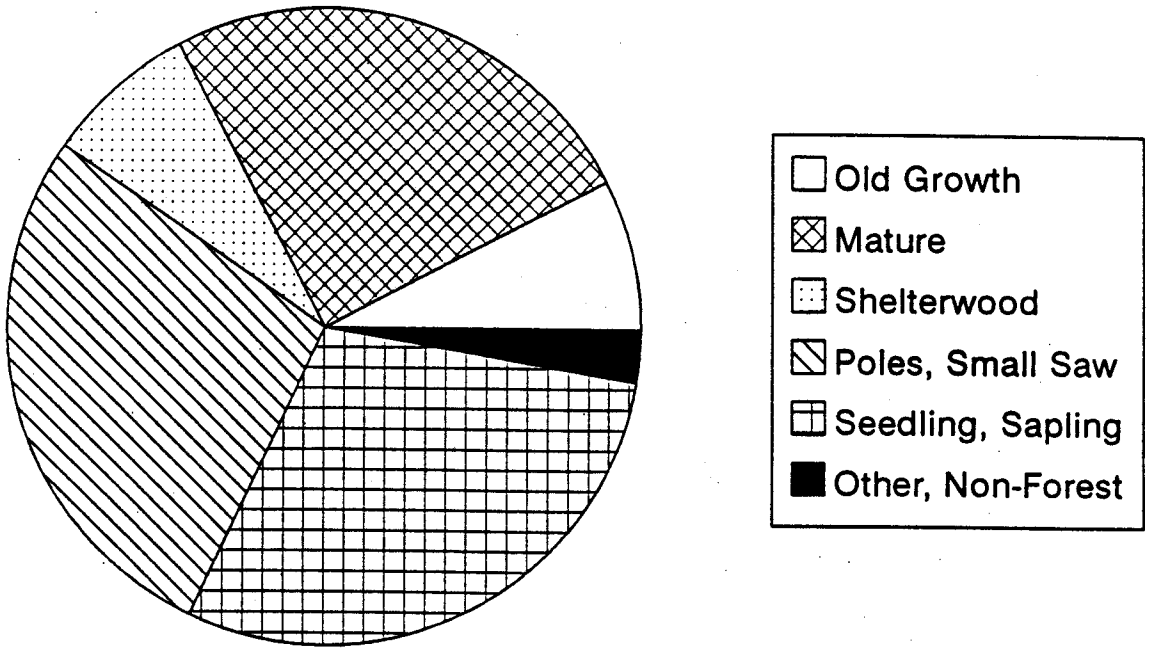
CURRENT CONDITION:

Vegetation:	**POOR**	Slow recovery due to high impact from frost, timber harvesting 1955-1991, shelterwoods predominate harvested areas
Soils:	**POOR**	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted and/or puddled on flats from skid trails and machine piling, displaced on slopes. Turbid runoff.
Aquatics:	**POOR**	Warm waters, low summer flows, some spawning areas present
Hydrology:	**POOR**	55% recovery, timber harvest and road construction has occurred in riparian reserves
Wildlife Habitat:	**POOR**	Lack of late successional forest, high road density, lack of quality forage
OVERALL:	**POOR**	

RECOMMENDATIONS:

- Reforest frost-impacted sites
- Look at in-stream structures
- Upland silviculture (Do stand tending: stocking level control and fertilization)
- Control gophers particularly in understocked plantations
- Limit harvest to aid recovery
- Multi-story development
- Reduce road density
- Create long-term forage base
- Riparian silviculture
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.
- Drainage Improvement (24"diam. corrugated metal pipe) on road 6470 at milepost 2.11.
- Drainage Improvement (18"diam. corrugated metal pipe) on road 6470 at milepost 2.37.
- Drainage Improvement (streambed armoring) on road 6470 at milepost 2.76.
- Replace corrugated metal pipe arch, armor fill slope and streambed on road 6470500 at milepost 0.28.

Condition Class
0903 - Jim Creek



0903 Jim Creek

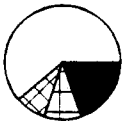
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	130	0	218	0	102	0	450
Mature	18	0	844	0	616	0	1,478
Shelterwood	0	0	222	0	230	0	452
Poles, Small Saw	0	0	708	0	836	76	1,620
Seedling, Sapling	22	0	740	2	960	0	1,724
Other, Non-Forest	42	0	68	0	34	14	158
Total:	212	0	2,800	2	2,778	90	**5,882**
(Row Percents)	4%	0%	48%	0%	47%	2%	100

(Column Percents)

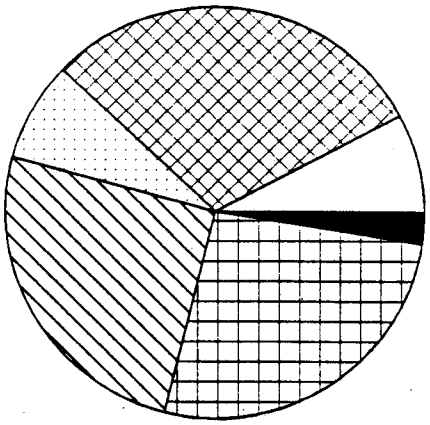
Old Growth	61%	-	8%	0%	4%	0%	8%
Mature	8%	-	30%	0%	22%	0%	25%
Shelterwood	0%	-	8%	0%	8%	0%	8%
Poles, Small Saw	0%	-	25%	0%	30%	84%	28%
Seedling, Sapling	10%	-	26%	100%	35%	0%	29%
Other, Non-Forest	20%	-	2%	0%	1%	16%	3%
Total:	100%	-	100%	100%	100%	100%	100%

Condition Class by Allocation

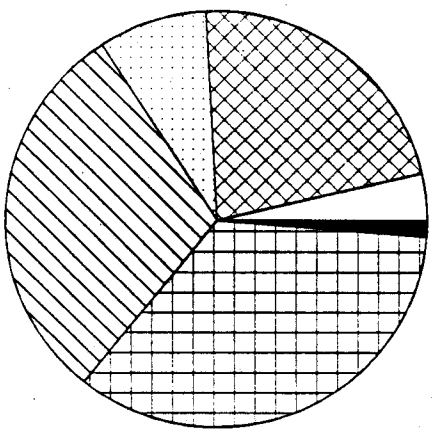
0903 - Jim Creek



Congr. Res.



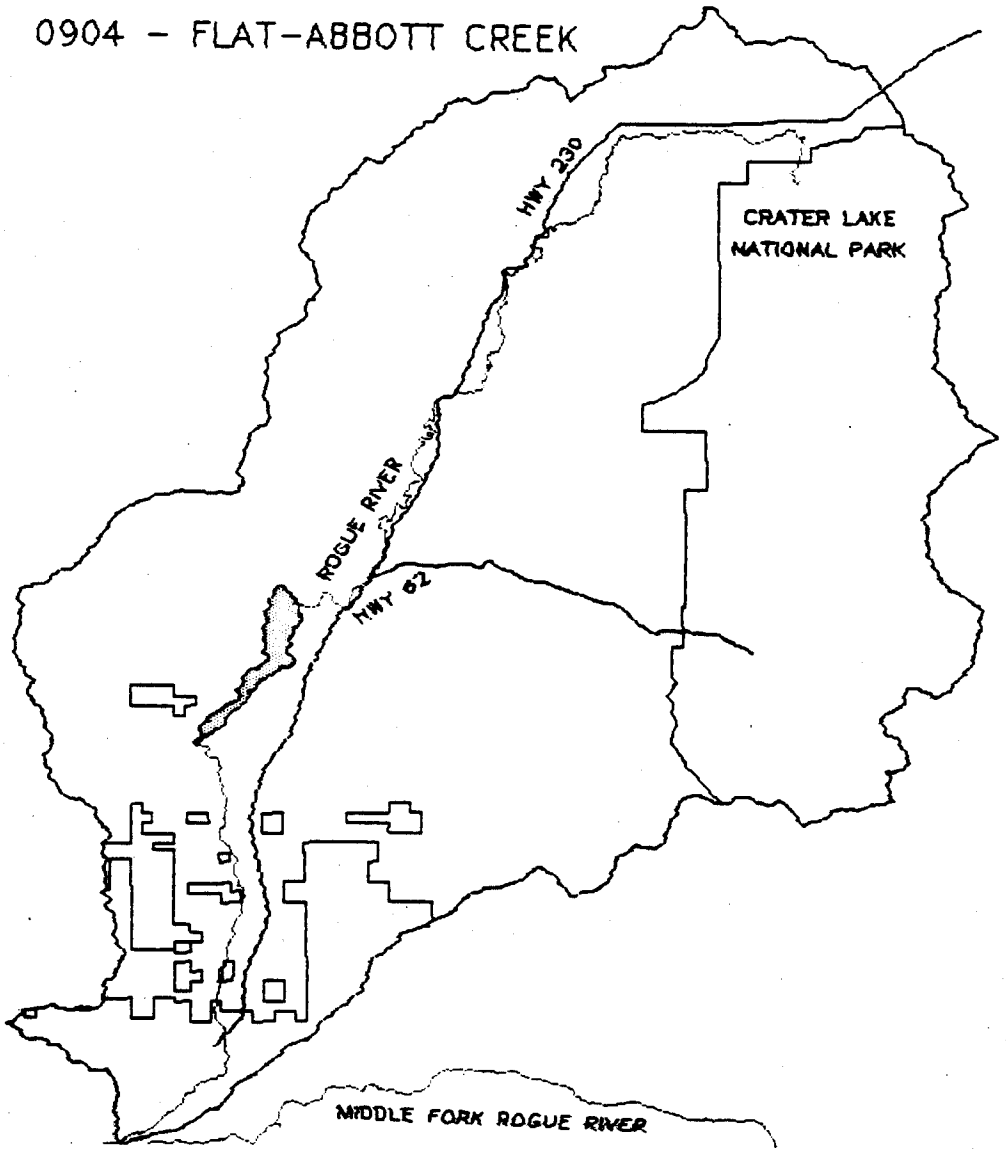
Riparian R.



Matrix

Private

0904 - FLAT-ABBOTT CREEK



0904 - FLAT-ABBOTT CREEK

Current Conditions and Recommendations

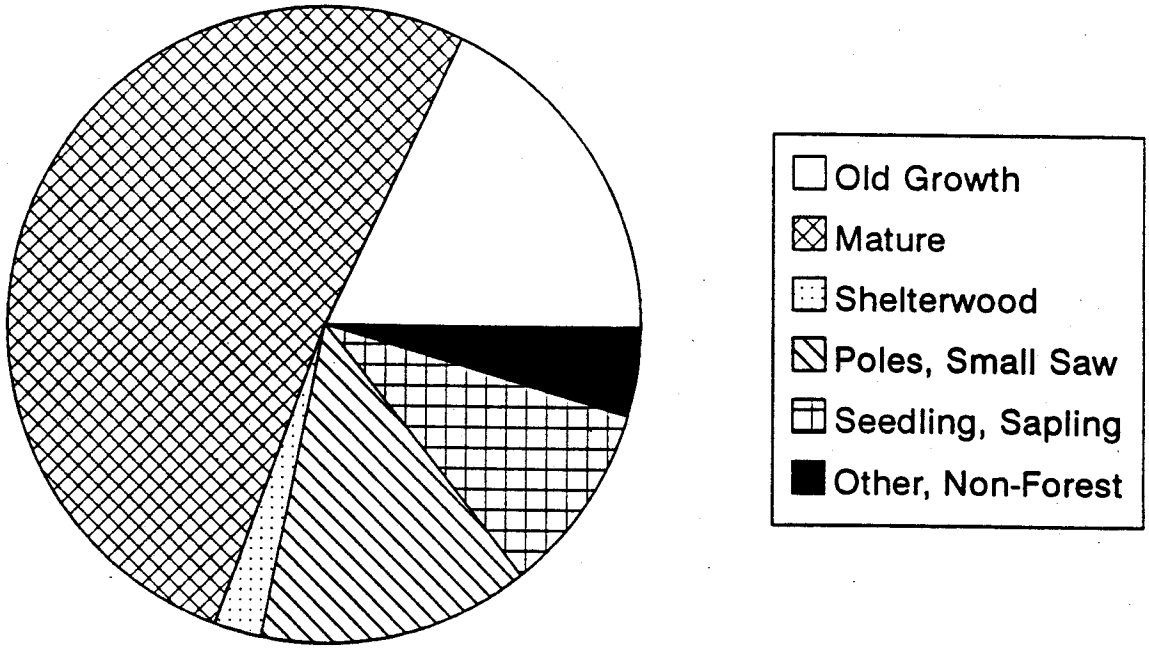
CURRENT CONDITION:

Vegetation:	**FAIR**	Highly variable, excellent growth on areas of good soils, timber harvesting 1950-1992, final removals and clearcuts predominate harvested areas
Soils:	**FAIR**	Clay-rich soils on slopes. Sandy soils along eastern boundary. Where logged, compacted and displaced sands on flats from skid trails and machine piling, displaced on slopes. Turbid runoff from slopes.
Aquatics:	**UN-KNOWN**	Need Inventory
Hydrology:	**POOR**	Some timber harvest has occurred in riparian reserves in tributary streams. Mainstem of Rogue River in good condition
Wildlife Habitat:	**POOR**	Lack of late successional forest, high road density, lack of quality forage
OVERALL:	**POOR**	

RECOMMENDATIONS:

- Continue stand tending activities such as gopher control and reforestation
- Multi-story development
- Reduce road density
- Create long-term forage base
- Need Stream inventory
- Improve/upgrade culverts
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.
- Road surface hardening into campsite and road closure (seasonal, Gate structure) on road 6800301 at milepost 0.06.
- Road surface hardening into camp sites, fill slope armoring/revegetation on road 6800304 at milepoat 0.10.

Condition Class
0904 - Flat-Abbott



0904 - Flat-Abbott Creek

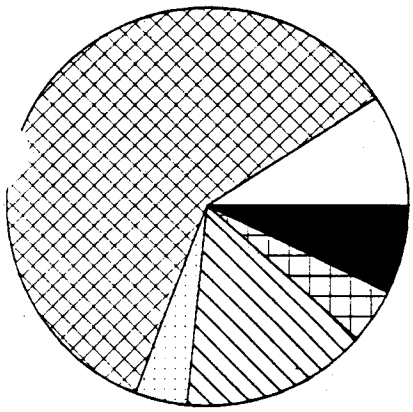
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	66	0	64	0	100	0	230
Mature	430	0	78	0	150	0	658
Shelterwood	30	0	0	0	0	0	30
Poles, Small Saw	106	0	6	0	66	0	178
Seedling, Sapling	32	0	24	0	68	0	124
Other, Non-Forest	52	0	2	0	4	0	58
Total:	716	0	174	0	388	0	**1,278**
(Row Percents)	56%	0%	14%	0%	30%	0%	100

(Column Percents)

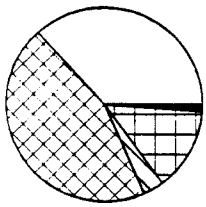
Old Growth	9%	-	37%	-	26%	-	18%
Mature	60%	-	45%	-	39%	-	51%
Shelterwood	4%	-	0%	-	0%	-	2%
Poles, Small Saw	15%	-	3%	-	17%	-	14%
Seedling, Sapling	4%	-	14%	-	18%	-	10%
Other, Non-Forest	7%	-	1%	-	1%	-	5%
Total:	100%	-	100%	-	100%	-	100%

Condition Class by Allocation

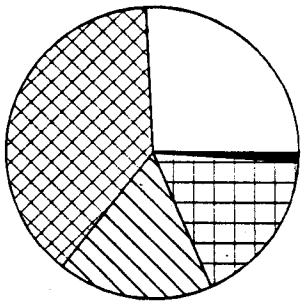
0904 - Flat-Abbott Creek



Congr. Res.

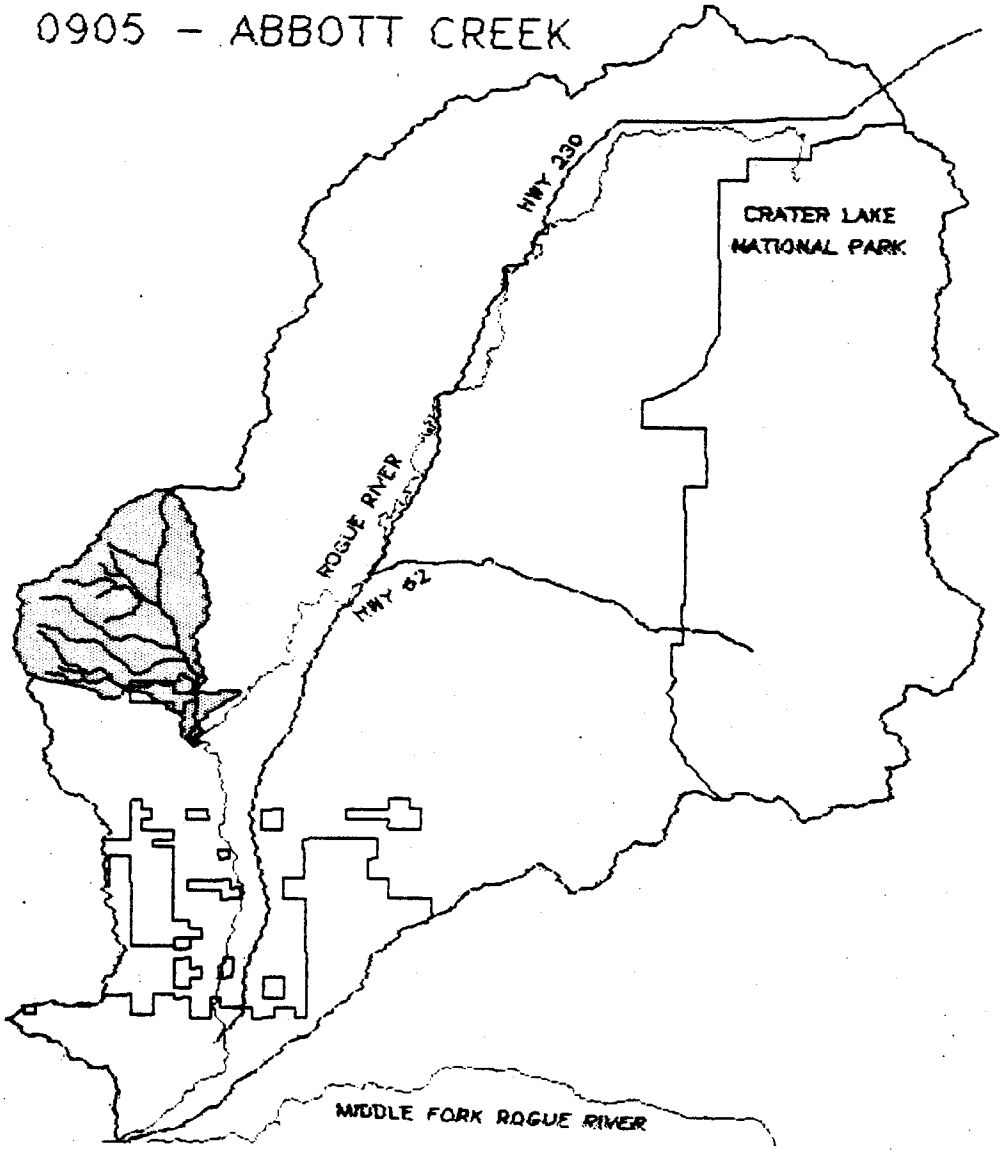


Riparian R.



Matrix

0905 - ABBOTT CREEK



0905 - ABBOTT CREEK

Current Conditions and Recommendations

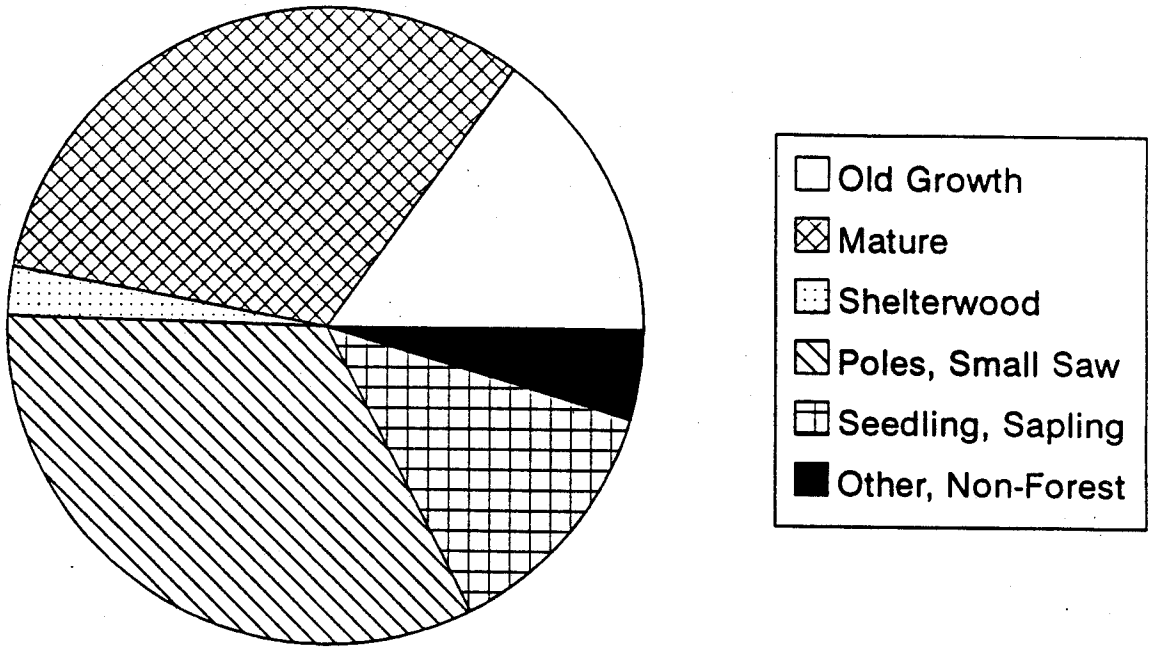
CURRENT CONDITION:

Vegetation:	**POOR/ FAIR**	High non-crop vegetation competition, conifer growth slowed by non-crop vegetation competition and compacted soils, timber harvesting 1949-1993, clearcuts predominate harvested areas
Soils:	**POOR**	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted and/or puddled on flats from skid trails and machine piling, displaced on slopes. Turbid runoff. Earthflows
Aquatics:	**POOR**	Suitable spawning areas, 40% large woody debris presently, warm water temperatures, channels degraded
Hydrology:	**POOR**	Lower channel downcut, large woody material (LWM) lacking, bank erosion and high water temperatures a problem, upper channels impacted by timber harvest and road construction
Wildlife Habitat:	**POOR**	Lack of late successional forest, high road density, lack of quality forage, private land parcel in key elk management area
OVERALL:	**FAIR/POOR**	

RECOMMENDATIONS:

- Stand tending needed to control competing non-crop vegetation
- Narrow channels by riparian silviculture (reforestation of diverse plant species and introduce large woody debris)
- Road work needed to correct runoff problems
- Multi-story development
- Reduce road density
- Create long-term forage base
- Obtain private land parcel
- High priority for fish habitat restoration: pool development, LWM
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.
- Drainage Improvements and fill slope armoring (riprap and/or revegetation) on road 68 at milepost 8.0.
- Harden road surface, replace failed culverts and armor fill corrugated metal pipe headwall on road 68 at milepost 9.61.
- Drainage Improvements, armor corrugated metal pipe headwalls, improve ditchline, install downpipe on road 6800650 at milepost 0.66.

Condition Class
0905 - Abbott Creek



0905 - Abbott Creek

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	0	1,118	380	248	10	0	1,756
Mature	40	1,096	1,390	558	618	20	3,722
Shelterwood	14	0	120	46	106	0	286
Poles, Small Saw	2	118	1,476	342	1,562	342	3,842
Seedling, Sapling	0	2	774	236	488	0	1,500
Other, Non-Forest	6	166	186	98	84	0	540
Total:	62	2,500	4,326	1,528	2,868	362	11,646
(Row Percents)	1%	21%	37%	13%	25%	3%	100

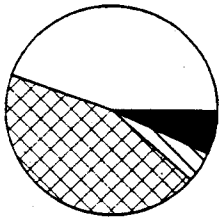
(Column Percents)

Old Growth	0%	45%	9%	16%	0%	0%	15%
Mature	65%	44%	32%	37%	22%	6%	32%
Shelterwood	23%	0%	3%	3%	4%	0%	2%
Poles, Small Saw	3%	5%	34%	22%	54%	94%	33%
Seedling, Sapling	0%	0%	18%	15%	17%	0%	13%
Other, Non-Forest	10%	7%	4%	6%	3%	0%	5%
Total:	100%	100%	100%	100%	100%	100%	100%

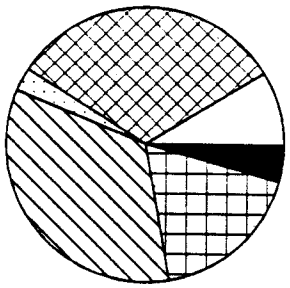
Condition Class by Allocation

0905 - Abbott Creek

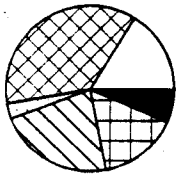
Congr. Res.



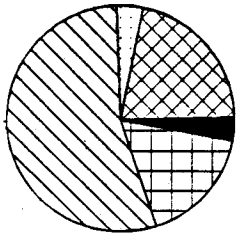
Admin. With.



Riparian R.



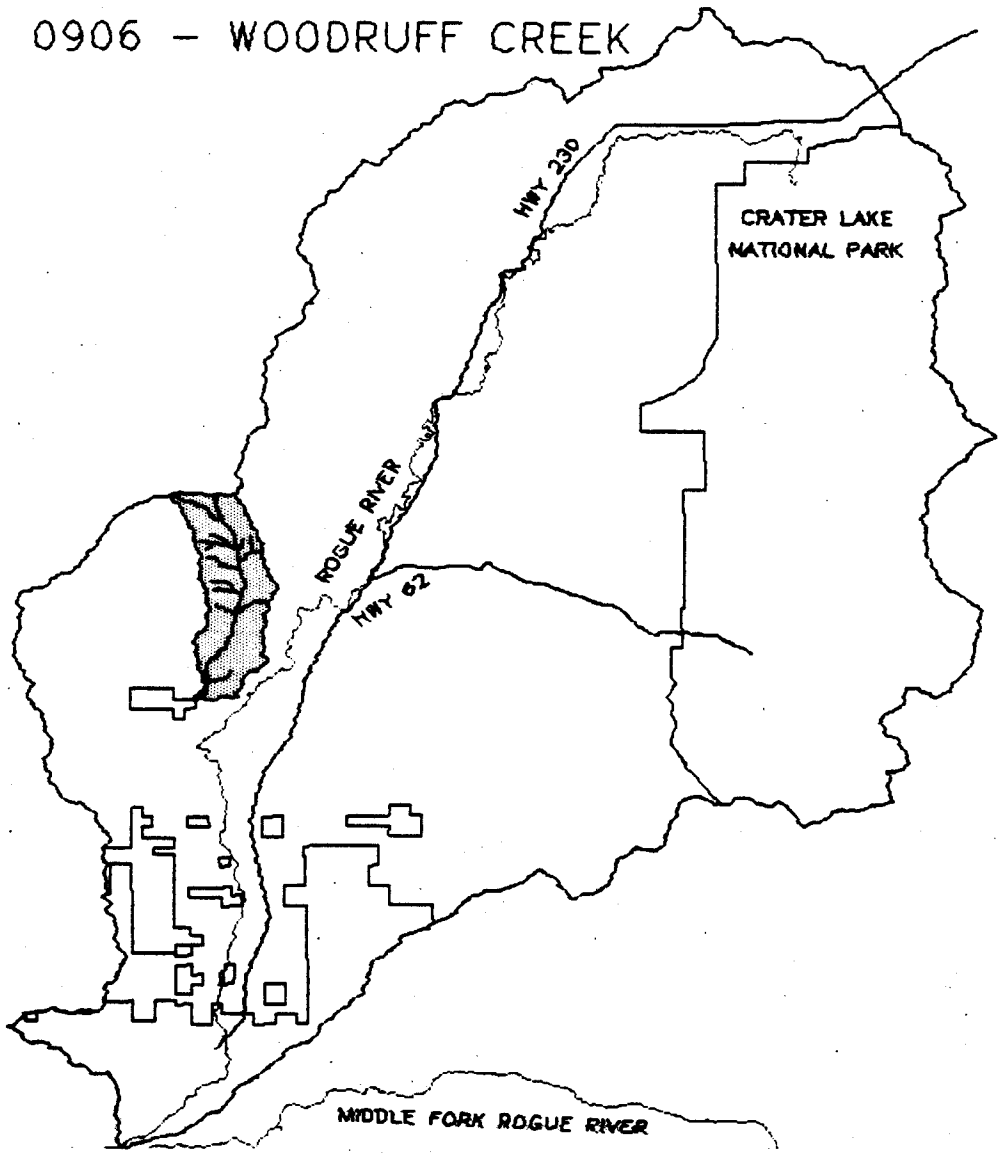
L. S. R.



Matrix

Private

0906 – WOODRUFF CREEK



0906 - WOODRUFF CREEK

Current Conditions and Recommendations

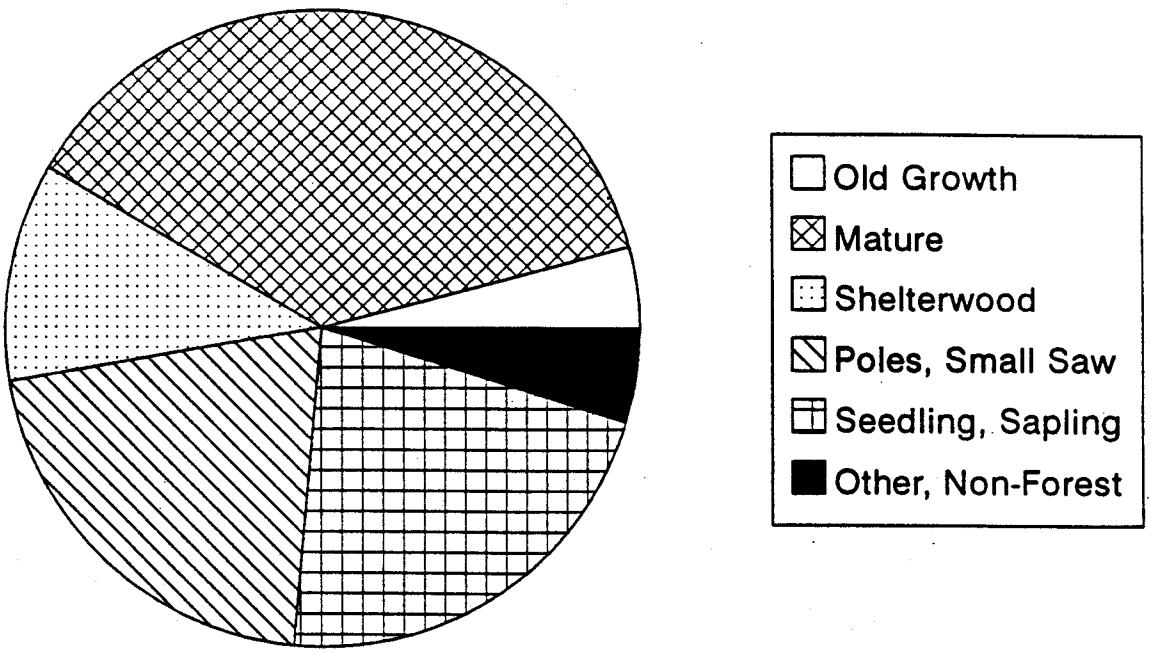
CURRENT CONDITION:

Vegetation:	**POOR/ FAIR**	Slow recovery due to frost impacts, timber harvesting 1952-1993, shelterwoods and clearcuts equally predominate harvested areas
Soils:	**POOR**	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted, puddled and displaced on flats from skid trails and machine piling, displaced on slopes. Turbid runoff. earth flows, down cut channels and gullies in the upper slopes
Aquatics:	**POOR**	Riffle dominated, few pools
Hydrology:	**POOR**	Lower channel downcut, large woody material (LWM) lacking, bank erosion and high water temperatures a problem, upper channels impacted by timber harvest and road construction
Wildlife Habitat:	**POOR**	Lack of late successional forest, high road density, lack of quality forage
OVERALL:	**POOR**	

RECOMMENDATIONS:

- Upland silviculture (Stand tending activities needed: plant in the frost zones, gopher control needed in understocked plantations, fertilization)
- Watershed restoration: channel work needed
- Multi-story development
- Reduce road density
- Create long-term forage base
- High priority for fish habitat restoration: LWM, pool development
- Riparian silviculture
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0906 - Woodruff Creek



0906 - Woodruff Creek

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	0	6	100	92	4	0	202
Mature	4	42	1,014	510	244	0	1,814
Shelterwood	0	0	264	150	124	0	538
Poles, Small Saw	8	2	426	144	434	0	1,014
Seedling, Sapling	2	10	438	172	424	0	1,046
Other, Non-Forest	2	10	108	46	68	0	234
Total:	16	70	2,350	1,114	1,298	0	4,848
(Row Percents)	0.33%	1.44%	48%	23%	27%	0%	100

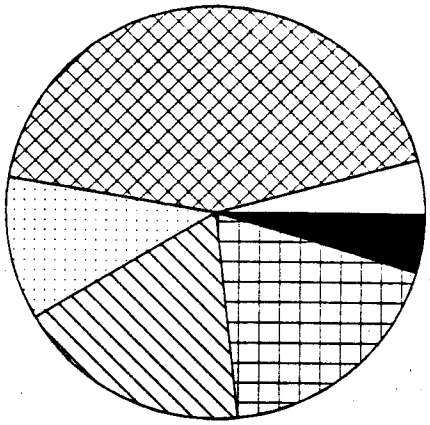
(Column Percents)

Old Growth	0%	9%	4%	8%	0%	-	4%
Mature	25%	60%	43%	46%	19%	-	37%
Shelterwood	0%	0%	11%	13%	10%	-	11%
Poles, Small Saw	50%	3%	18%	13%	33%	-	21%
Seedling, Sapling	13%	14%	19%	15%	33%	-	22%
Other, Non-Forest	13%	14%	5%	4%	5%	-	5%
Total:	100%	100%	100%	100%	100%	-	100%

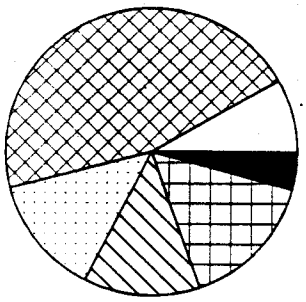
Condition Class by Allocation

0906 - Woodruff Creek

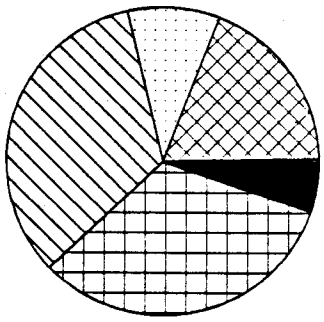
Admin. With.



Riparian R.

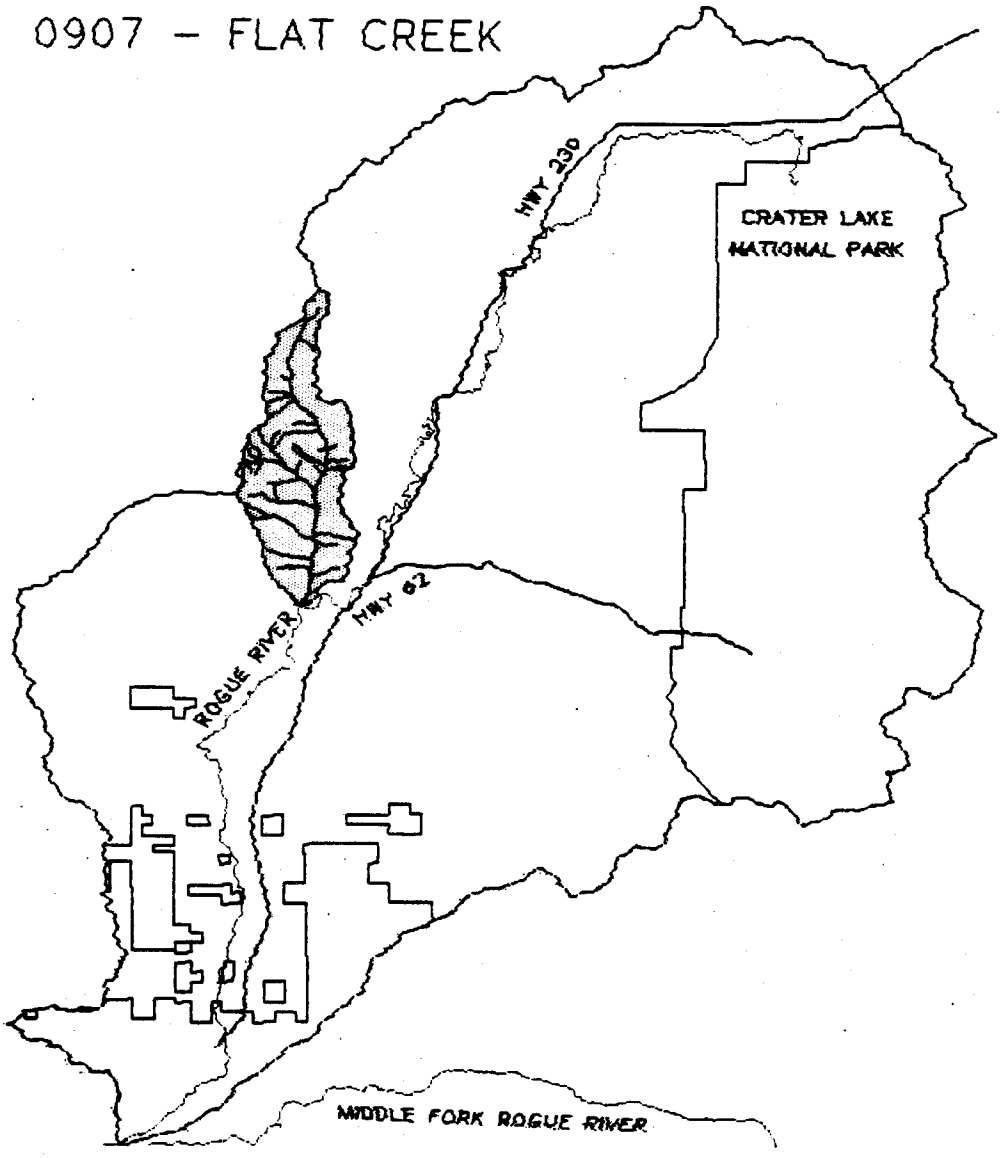


L. S. R.



Matrix

0907 – FLAT CREEK



0907 - FLAT CREEK

Current Conditions and Recommendations

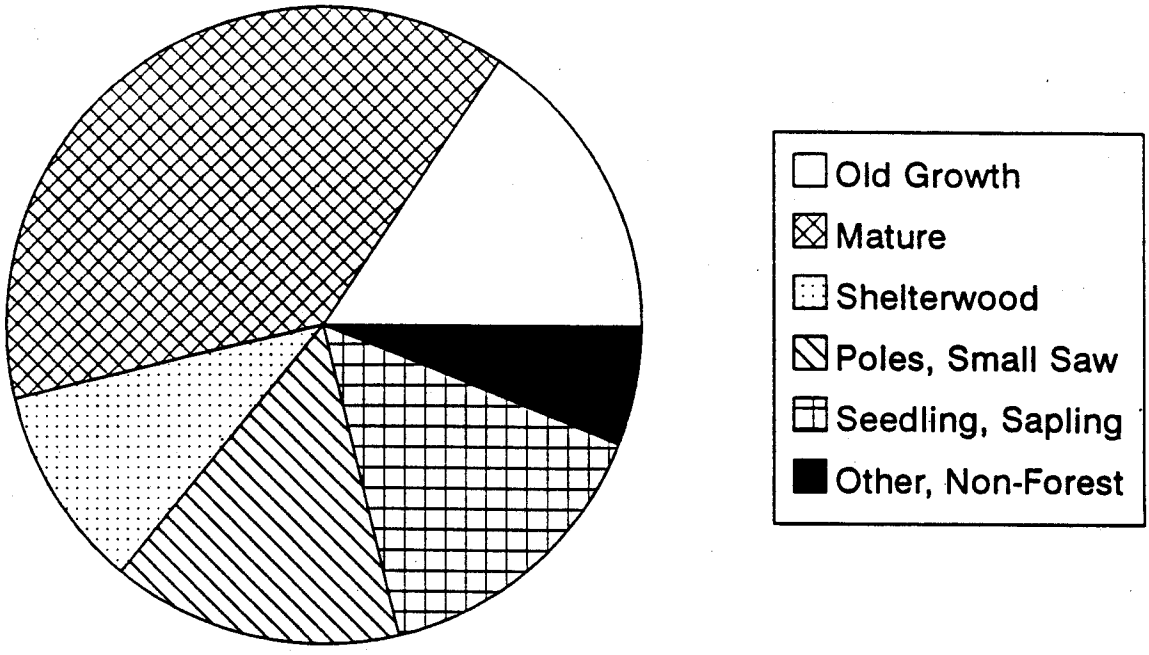
CURRENT CONDITION:

Vegetation:	**FAIR/ GOOD**	Area mixed conifer and true fir zones, slowed growth due to compacted soils on the flats, interspersed meadows and glades allow prime gopher feeding vegetation to invade plantations and lowers reforestation success, timber harvesting 1954-1994, shelterwoods predominate harvested areas
Soils:	**FAIR**	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted on flats. Turbid runoff. glades & meadows cut by mid-slope roads have caused movement of soils
Aquatics:	**FAIR**	Wide, shallow streams, good fishery in Flat Creek
Hydrology:	**GOOD**	Main channel of Flat Creek in good condition, encroachment into riparian reserves from timber harvest and road construction in tributaries such as Travail Creek
Wildlife Habitat:	**FAIR**	Lack of late successional forest, high road density, lack of quality forage
OVERALL:	**GOOD**	

RECOMMENDATIONS:

- Washed out bridge on 400 Rd. --- need to pull out the ford crossing
- Riparian silviculture needed to narrow channel and introduce woody material
- Road work needed in the flats
- Multi-story development
- Reduce road density
- Create long-term forage base
- Improve drainage from roads
- Flat Creek high priority for fish habitat restoration: pool formation, bank protection
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.
- Road surface hardening & draindip armoring on road 6510015 at milepost 0.16.

Condition Class
0907 - Flat Creek



0907 - Flat Creek

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	18	0	696	472	154	0	1,340
Mature	46	202	1,474	892	634	0	3,248
Shelterwood	48	0	446	100	288	0	882
Poles, Small Saw	26	20	596	400	218	0	1,260
Seedling, Sapling	0	0	670	400	222	0	1,292
Other, Non-Forest	8	86	262	150	14	0	520
Total:	146	308	4,144	2,414	1,530	0	**8,542**
(Row Percents)	2%	4%	49%	28%	18%	0%	100

(Column Percents)

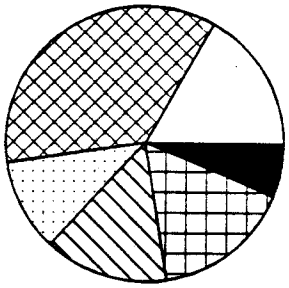
Old Growth	12%	0%	17%	20%	10%	-	16%
Mature	32%	66%	36%	37%	41%	-	38%
Shelterwood	33%	0%	11%	4%	19%	-	10%
Poles, Small Saw	18%	6%	14%	17%	14%	-	15%
Seedling, Sapling	0%	0%	16%	17%	15%	-	15%
Other, Non-Forest	5%	28%	6%	6%	1%	-	6%
Total:	100%	100%	100%	100%	100%	-	100%

Condition Class by Allocation

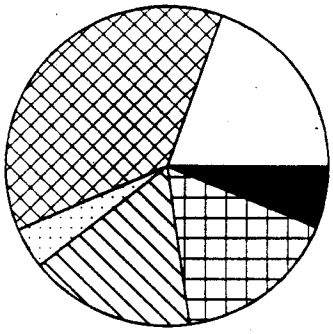
0907 - Flat Creek

Congr. Res.

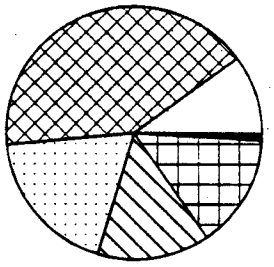
Admin. With.



Riparian R.

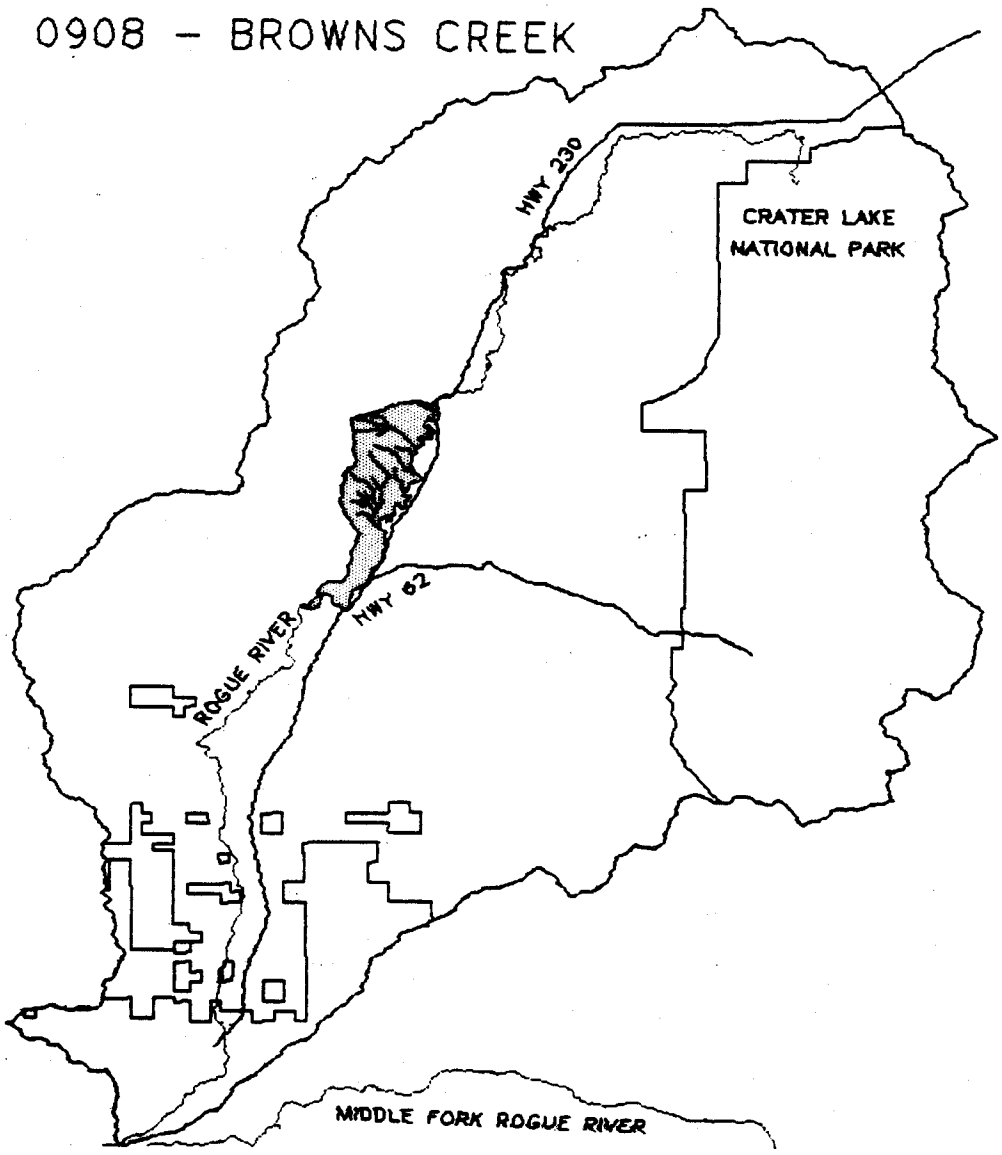


L. S. R.



Matrix

0908 – BROWNS CREEK



0908 - BROWNS CREEK

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:

FAIR/ GOOD — Meadows now invaded by incense cedars, high fire history/ occurrence in area, timber harvesting 1954-1994, shelterwoods predominate harvested areas

Soils:

POOR — Clay-rich soils. Sandy soils along eastern boundary. Where logged, severely compacted and displaced on flats from skid trails and machine piling, compacted and displaced on slopes. Turbid runoff. rock outcrops common, hummocky terrain, debris slides. wet meadows along east boundary.

Aquatics:

FAIR — Fair cover, sparse large woody debris, few pools

Hydrology:

GOOD — Not heavily impacted from timber harvesting, roads are away from the creek, water temperatures are low

Wildlife Habitat:

POOR — Lack of late successional forest, high road density, livestock control needed in meadows

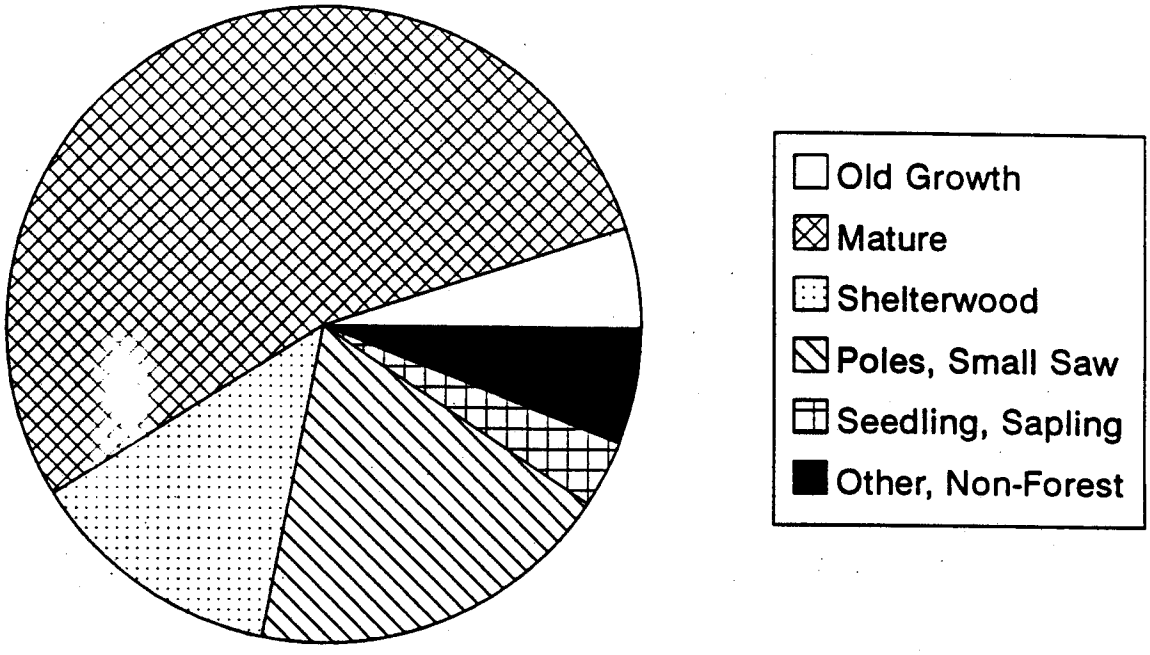
OVERALL:

FAIR

RECOMMENDATIONS:

- Control competing non-crop vegetation where conifer stands and structures are desired.
- Utilize fire to regain meadows and openings
- Implement allotment plan
- Ban beaver trapping
- Area of Diamond Rogue Gold Mine proposal --- old pit rehabed
- Multi-story development
- Reduce road density
- Fence or control livestock on meadows
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0908 - Browns Creek



0908 - Browns Creek

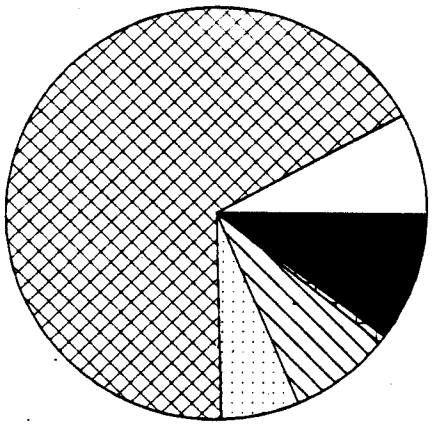
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	130	0	32	0	34	0	196
Mature	1,104	20	508	0	448	0	2,080
Shelterwood	98	0	180	0	226	0	504
Poles, Small Saw	126	2	256	0	338	0	722
Seedling, Sapling	10	0	52	0	70	0	132
Other, Non-Forest	166	0	38	0	26	0	230
Total:	1,634	22	1,066	0	1,142	0	3,864
(Row Percents)	42%	1%	28%	0%	30%	0%	100

(Column Percents)

Old Growth	8%	0%	3%	-	3%	-	5%
Mature	68%	91%	48%	-	39%	-	54%
Shelterwood	6%	0%	17%	-	20%	-	13%
Poles, Small Saw	8%	9%	24%	-	30%	-	19%
Seedling, Sapling	1%	0%	5%	-	6%	-	3%
Other, Non-Forest	10%	0%	4%	-	2%	-	6%
Total:	100%	100%	100%	-	100%	-	100%

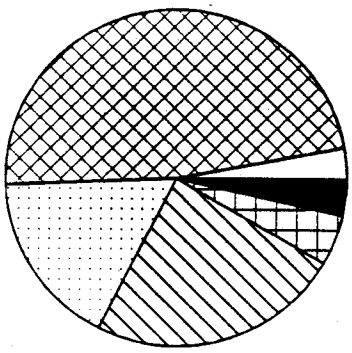
Condition Class by Allocation

0908 - Browns Creek

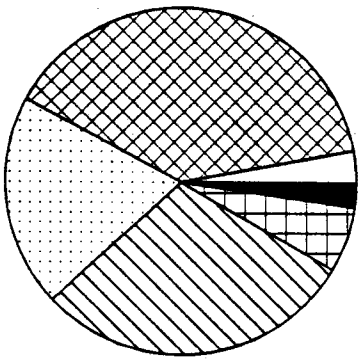


Congr. Res.

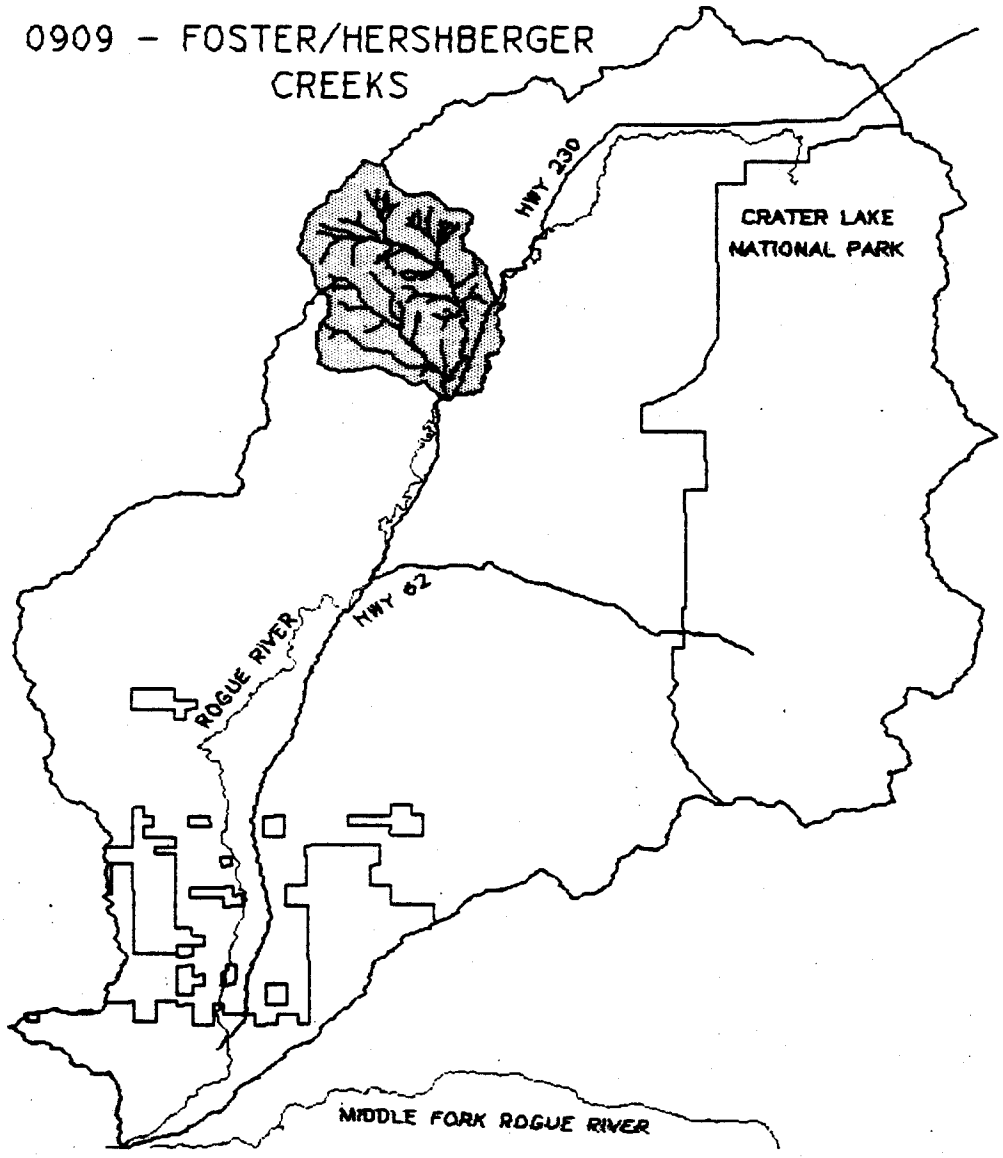
Admin. With.



Riparian R.



Matrix


0909 - FOSTER/HERSHBERGER
CREEKS
HWY 230
CRATER LAKE
NATIONAL PARK
ROGUE RIVER
HWY 62
MIDDLE FORK ROGUE RIVER

0909 - FOSTER/HERSHBERGER CREEK

Current Conditions and Recommendations

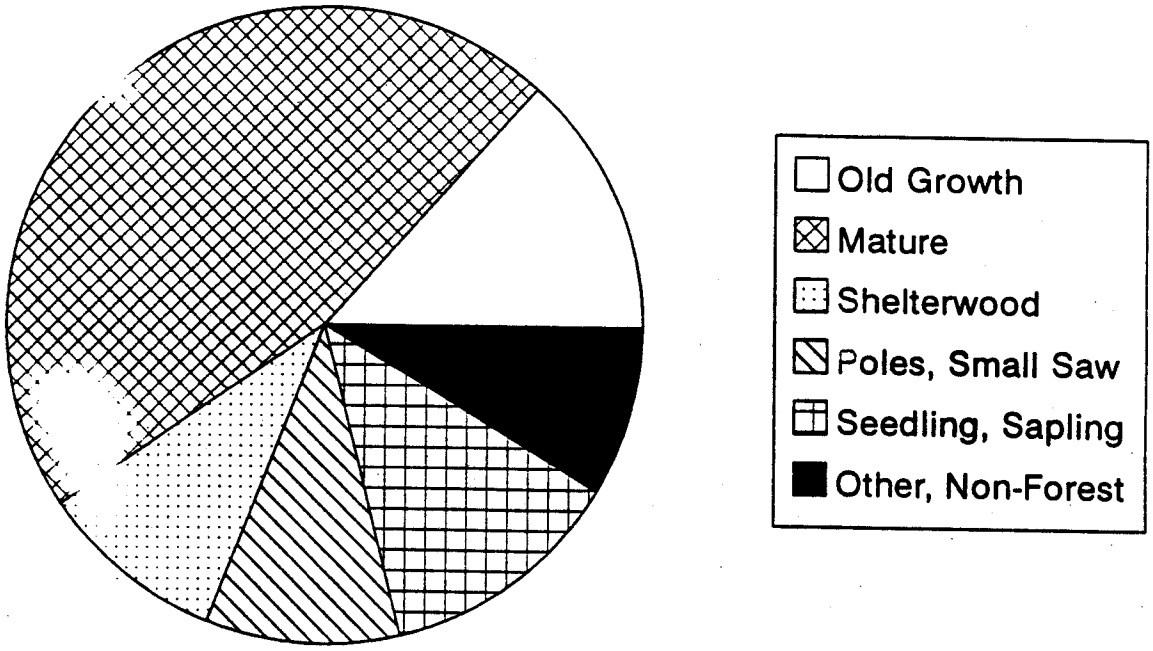
CURRENT CONDITION:

Vegetation:		
	FAIR/ GOOD	Competing non-crop vegetation, meadows, timber harvesting 1951-1994, clearcuts predominate harvested areas
Soils:		
	POOR/ FAIR	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted on flats and displaced on slopes. Turbid run-off. rock outcrops common, hummocky terrain, debris slides
Aquatics:		
	POOR/ GOOD	Mining, low large woody debris in channels, high stream temperatures, wide channels, bare pumice banks.
Hydrology:		
	FAIR	Lower channel aggraded, high water temperatures, upper watershed has had timber harvest and road construction in the riparian reserves
Wildlife Habitat:		
	GOOD	High road density
OVERALL:		
	POOR/GOOD	

RECOMMENDATIONS:

- Riparian silviculture to narrow channels and introduce large woody debris
- Stand tending needed to control competing non-crop vegetation and control gopher populations for conifer stand survival and growth
- Utilize fire to maintain and reopen meadows (opportunity limited by airshed restrictions)
- Implement the allotment plan
- Reduce road density
- Control grazing in riparian areas
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0909 - Foster/Hershberger

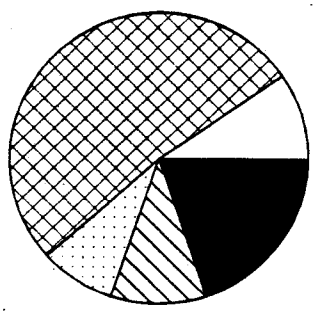


0909 - Foster/Hershberger

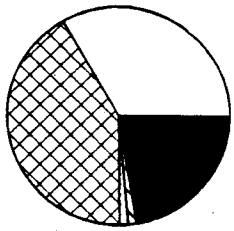
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	226	434	578	448	0	0	1,686
Mature	1,200	546	2,164	1,832	0	0	5,742
Shelterwood	190	16	396	576	0	0	1,178
Poles, Small Saw	238	16	410	554	0	0	1,218
Seedling, Sapling	2	0	844	712	0	0	1,558
Other, Non-Forest	456	290	210	116	0	0	1,072
Total:	2,312	1,302	4,602	4,238	0	0	12,454
(Row Percents)	19%	10%	37%	34%	0%	0%	100
(Column Percents)							
Old Growth	10%	33%	13%	11%	-	-	14%
Mature	52%	42%	47%	43%	-	-	46%
Shelterwood	8%	1%	9%	14%	-	-	9%
Poles, Small Saw	10%	1%	9%	13%	-	-	10%
Seedling, Sapling	0%	0%	18%	17%	-	-	13%
Other, Non-Forest	20%	22%	5%	3%	-	-	9%
Total:	00%	100%	100%	100%	-	-	100%

Condition Class by Allocation

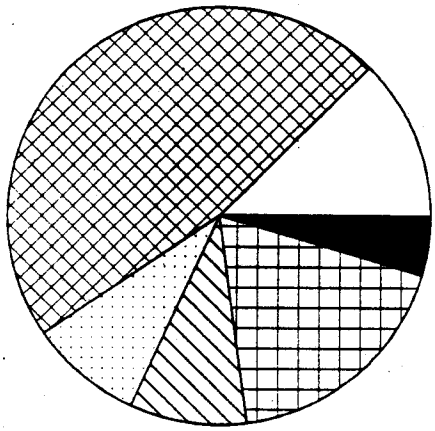
0909 - Foster/Hershberger



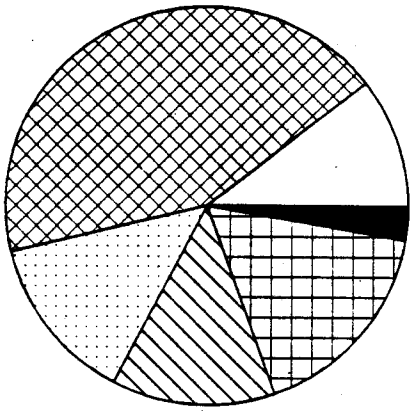
Congr. Res.



Admin. With.

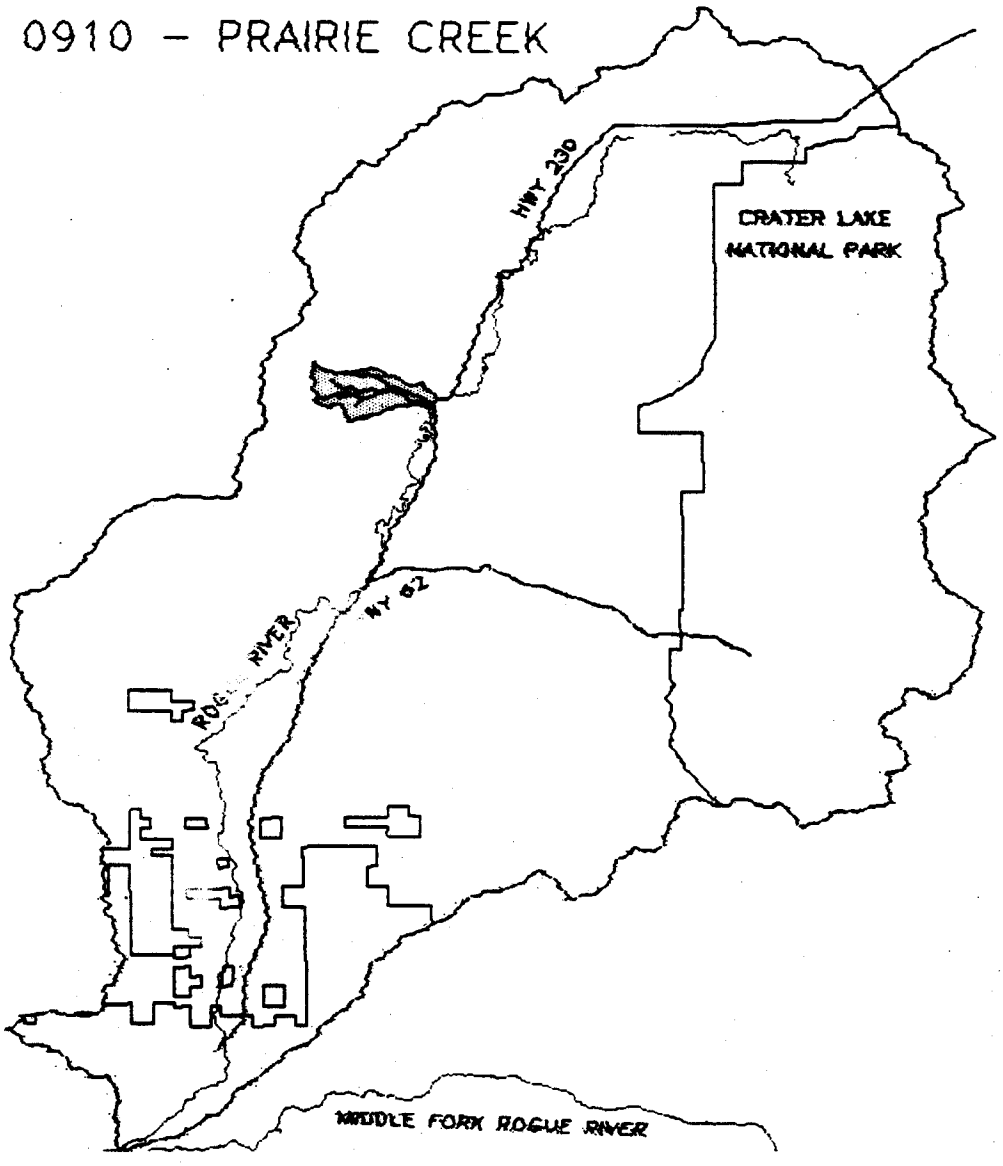


Riparian R.



L. S. R.

0910 – PRAIRIE CREEK



0910 - PRAIRIE CREEK

Current Conditions and Recommendations

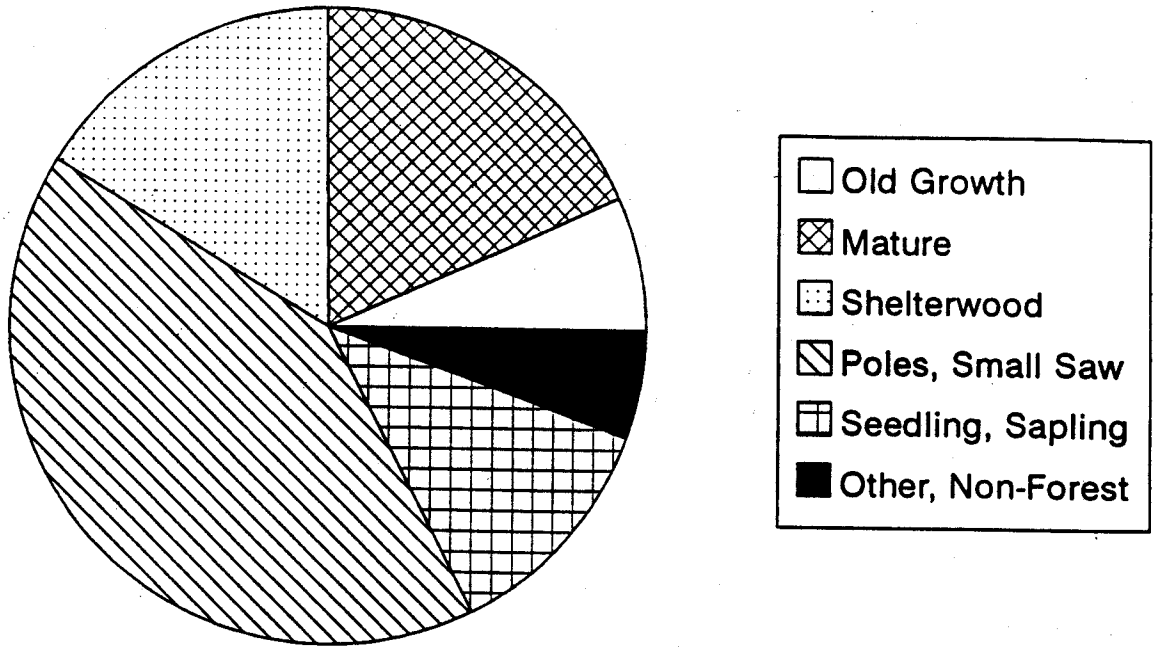
CURRENT CONDITION:

Vegetation:		
	FAIR/ GOOD	Competing non-crop vegetation, meadows, timber harvesting 1955-1986, shelterwoods predominate harvested areas
Soils:		
	VERY POOR	Rock outcrops common, hummocky terrain, clay rich soils. Where logged, compacted or displaced on flats from skid trails and machine piling, displaced on slopes. Debris slides.
Aquatics:		
	POOR/ FAIR	Lack of large woody debris in streams, high temperatures, degraded habitat, low number of pools.
Hydrology:		
	FAIR	68% recovery, heavily roaded, timber harvesting has occurred in the riparian reserves. Drainages diverted. Wetlands created.
Wildlife Habitat:		
	POOR	Lack of late successional forest, high road density, lack of quality forage
OVERALL:		
	FAIR	

RECOMMENDATIONS:

- Riparian silviculture needed to introduce cover and large woody debris
- Implement the allotment plan
- Multi-story development
- Reduce road density
- Create long-term forage base
- Improve/upgrade culverts
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0910 - Prairie Creek



0910 - Prairie Creek

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	36	0	42	2	28	0	108
Mature	0	0	214	62	18	0	294
Shelterwood	0	6	100	24	128	0	258
Poles, Small Saw	0	0	362	40	254	0	656
Seedling, Sapling	0	0	72	22	96	0	190
Other, Non-Forest	8	2	48	30	2	0	90
Total:	44	8	838	180	526	0	1,596
(Row Percents)	3%	1%	53%	11%	33%	0%	100

(Column Percents)

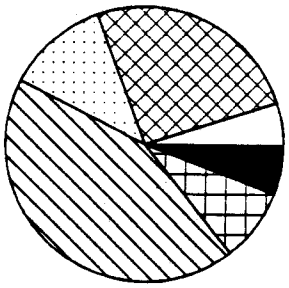
Old Growth	82%	0%	5%	1%	5%	-	7%
Mature	0%	0%	26%	34%	3%	-	18%
Shelterwood	0%	75%	12%	13%	24%	-	16%
Poles, Small Saw	0%	0%	43%	22%	48%	-	41%
Seedling, Sapling	0%	0%	9%	12%	18%	-	12%
Other, Non-Forest	18%	25%	6%	17%	0%	-	6%
Total:	100%	100%	100%	100%	100%	-	100%

Condition Class by Allocation

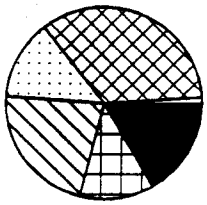
0910 - Prairie Creek

Congr. Res.

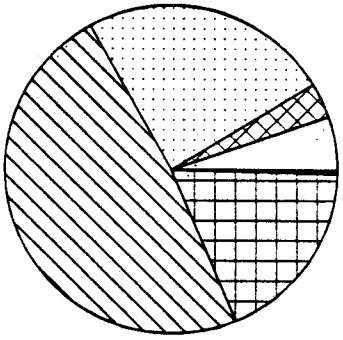
Admin. With.



Riparian R.

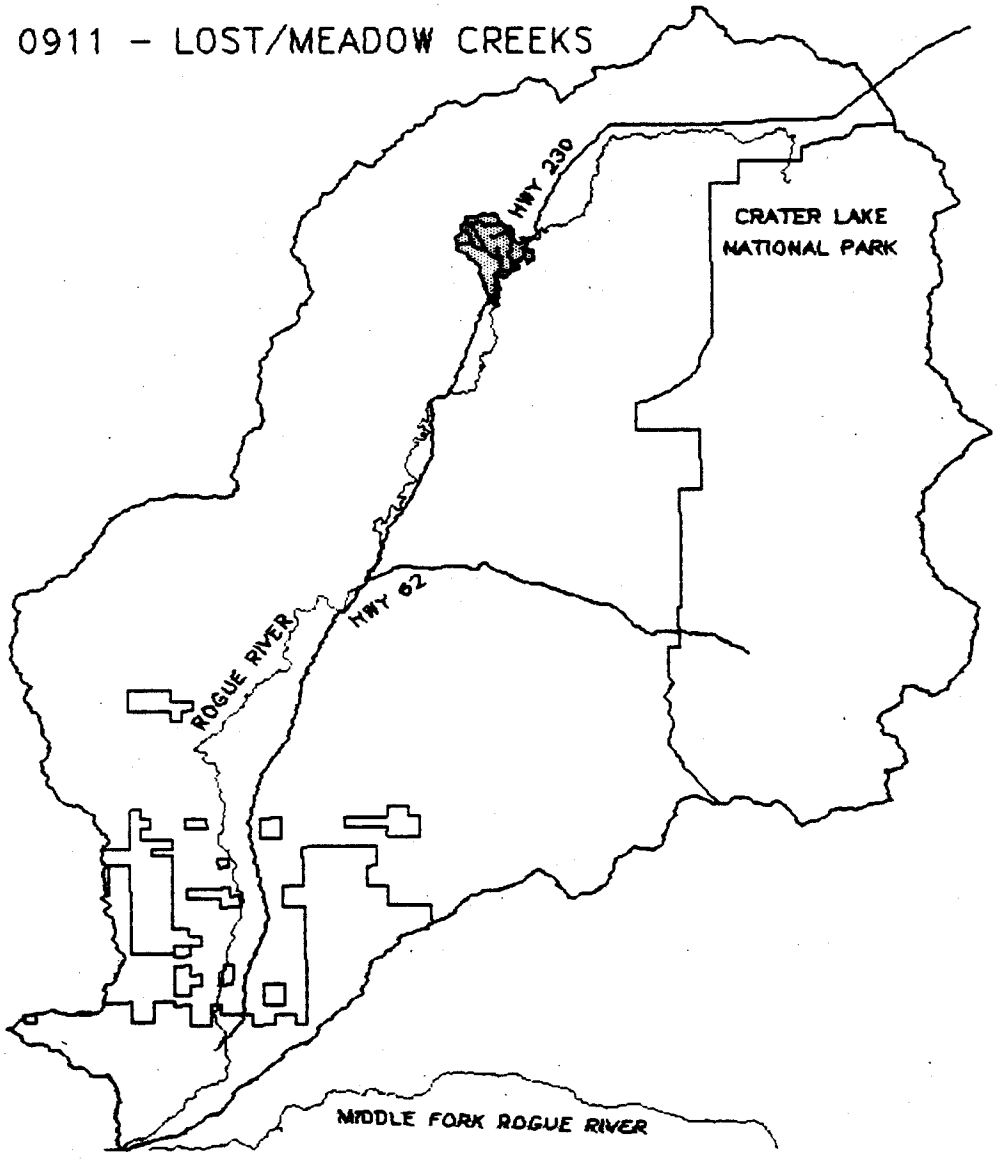


L. S. R.



Matrix

0911 - LOST/MEADOW CREEKS



0911 - LOST/MEADOW CREEK

Current Conditions and Recommendations

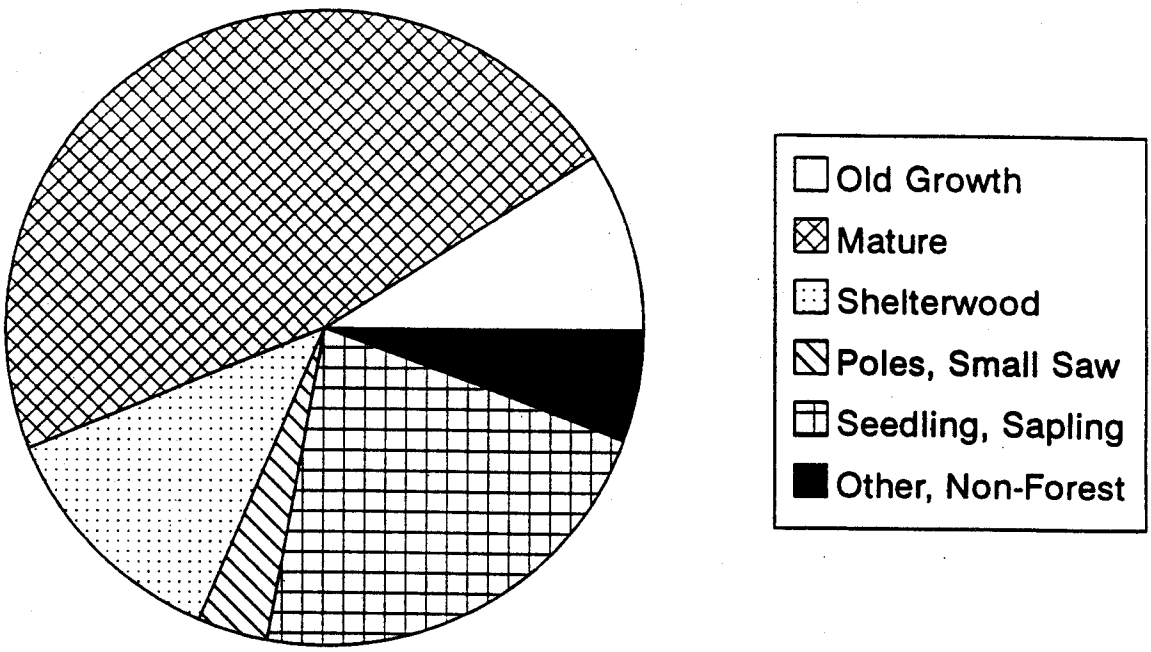
CURRENT CONDITION:

Vegetation:		
	FAIR/ GOOD	High non-crop vegetation competition, timber harvesting 1964-1992, clearcuts predominate harvested areas
Soils:		
	POOR	Clay-rich soils. Sandy soils along eastern boundary. Where logged, severely compacted and displaced on flats and displaced on slopes. Turbid runoff. eroded, hummocky terrain, rocky soils derived from glacial deposits
Aquatics:		
	POOR	Lost Creek very poor fisheries creek
Hydrology:		
	POOR	Road encroachment in riparian reserves, aggraded channels
Wildlife Habitat:		
	FAIR	Lack of late successional forest, high road density
OVERALL:		
	POOR/ FAIR	Lost Creek filled with soil debris: some is natural, but much is due to harvest operations and roading.

RECOMMENDATIONS:

- Upland silviculture needed to develop vertical stand structures (control non-crop competing vegetation, plant, control stocking level density)
- Lots of road work needed
- Implement the allotment plan
- Riparian silviculture needed to aid stream channels
- Multi-story development
- Reduce road density
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0911 - Lost/Meadow



0911 - Lost/Meadow

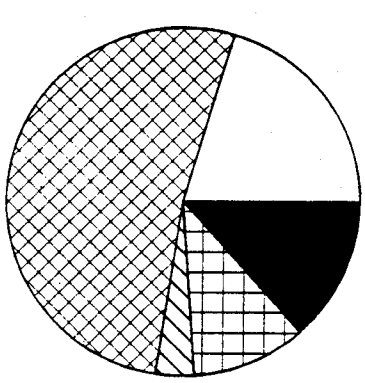
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	82	0	36	6	0	0	124
Mature	210	0	258	168	0	0	636
Shelterwood	0	0	66	102	0	0	168
Poles, Small Saw	14	0	10	24	0	0	48
Seedling, Sapling	42	0	132	126	0	0	300
Other, Non-Forest	54	0	18	4	0	0	76
Total:	402	0	520	430	0	0	1,352
(Row Percents)	30%	0%	38%	32%	0%	0%	100

(Column Percents)

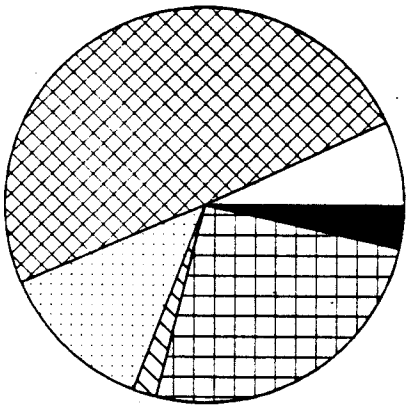
Old Growth	20%	-	7%	1%	-	-	9%
Mature	52%	-	50%	39%	-	-	47%
Shelterwood	0%	-	13%	24%	-	-	12%
Poles, Small Saw	3%	-	2%	6%	-	-	4%
Seedling, Sapling	10%	-	25%	29%	-	-	22%
Other, Non-Forest	13%	-	3%	1%	-	-	6%
Total:	100%	-	100%	100%	-	-	100%

Condition Class by Allocation

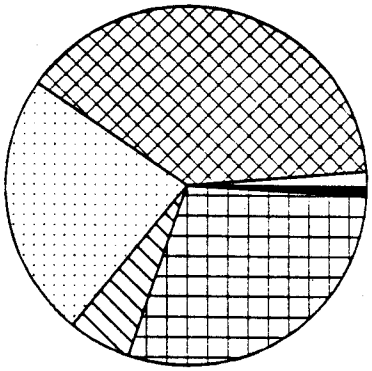
0911 - Lost/Meadow



Congr. Res.

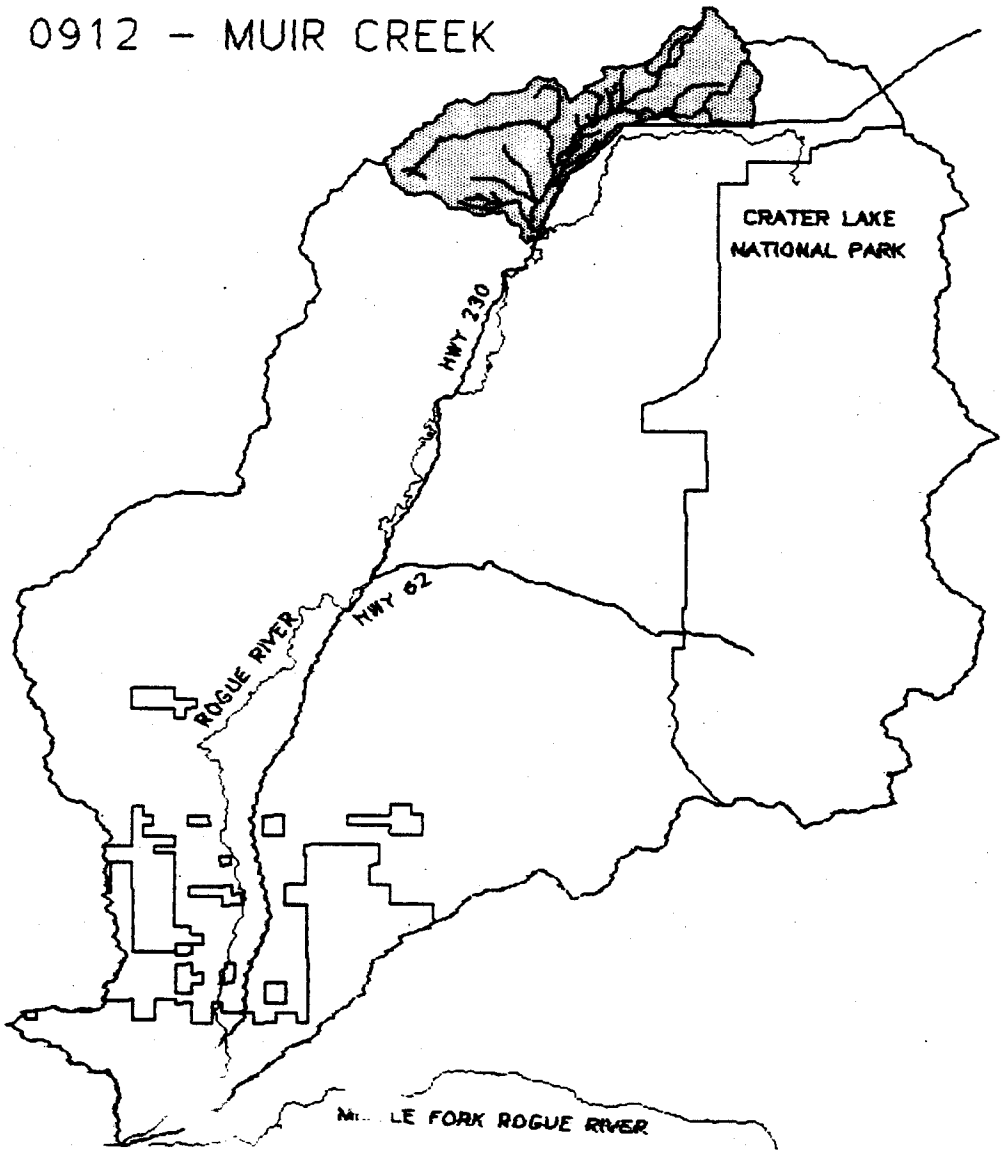


Riparian R.



L. S. R.

0912 – MUIR CREEK



0912 - MUIR CREEK

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:

FAIR/ GOOD — Frost impacts are high on the flats, compacted soils reduce the growth rates, timber harvesting 1965-1993, clearcuts predominate harvested areas

Soils:

POOR/ FAIR — Where logged, compacted and displaced pumice soils on lower slopes, lack of nutrients in pumice soils. Displaced glaciated rocky soils in uplands. Wetland size increased by tractors.

Aquatics:

FAIR/ GOOD — High quality trout stream with some localized problems

Hydrology:

POOR to almost EXCELLENT

Muir Creek is in good shape, lots of meadows, good stream temperatures, riparian poor to declining due to cattle and concentrated harvest operations and created wetlands. Cattle have degraded Beaver Meadows, riparian vegetation degraded or eradicated due to cattle grazing

Wildlife Habitat:

GOOD — Reduce road density, impact to talus slope deposits, wetland areas degraded by beaver trapping

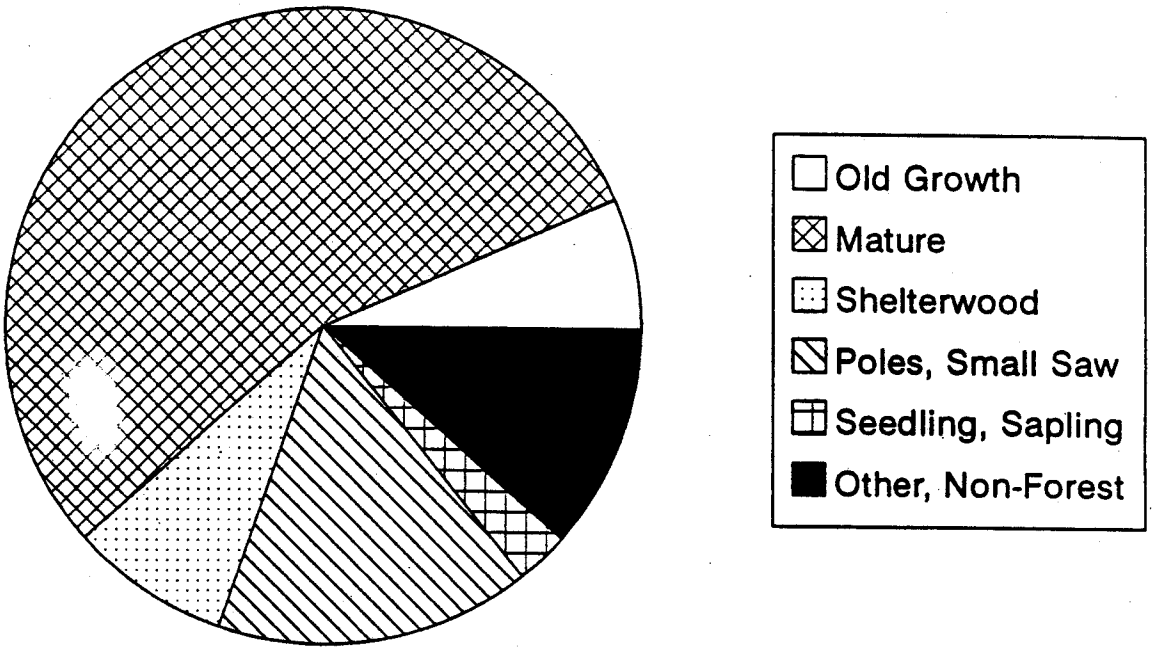
OVERALL:

FAIR/POOR

RECOMMENDATIONS:

- Implement the allotment plan
- Ban beaver trapping
- Revegetation of frost impacted and compacted areas
- Road issues
- Multi-story development
- Reduce road density
- Reduce impact on talus slopes
- Instream habitat restoration: add conifers to diversify riffles
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0912 - Muir Creek



0912 - Muir Creek

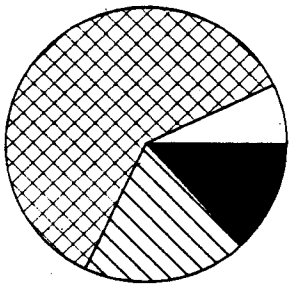
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	318	0	258	288	0	0	864
Mature	2,726	1,738	1,366	586	752	0	7,168
Shelterwood	2	2	408	384	270	0	1,066
Poles, Small Saw	840	560	320	154	218	0	2,092
Seedling, Sapling	6	0	130	210	8	0	354
Other, Non-Forest	582	308	400	156	50	0	1,496
Total:	4,474	2,608	2,882	1,778	1,298	0	**13,040**
(Row Percents)	34%	20%	22%	14%	10%	0%	100

(Column Percents)

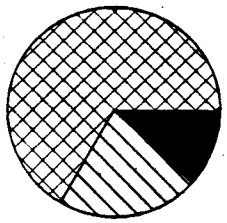
Old Growth	7%	0%	9%	16%	0%	-	7%
Mature	61%	67%	47%	33%	58%	-	55%
Shelterwood	0%	0%	14%	22%	21%	-	8%
Poles, Small Saw	19%	21%	11%	9%	17%	-	16%
Seedling, Sapling	0%	0%	5%	12%	1%	-	3%
Other, Non-Forest	13%	12%	14%	9%	4%	-	11
Total:	100%	100%	100%	100%	100%	-	10

Condition Class by Allocation

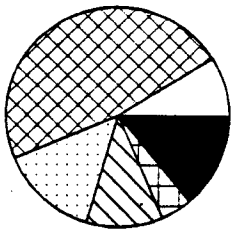
0912 - Muir Creek



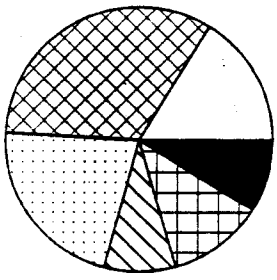
Congr. Res.



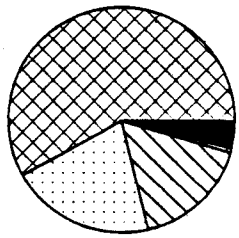
Admin. With.



Riparian R.

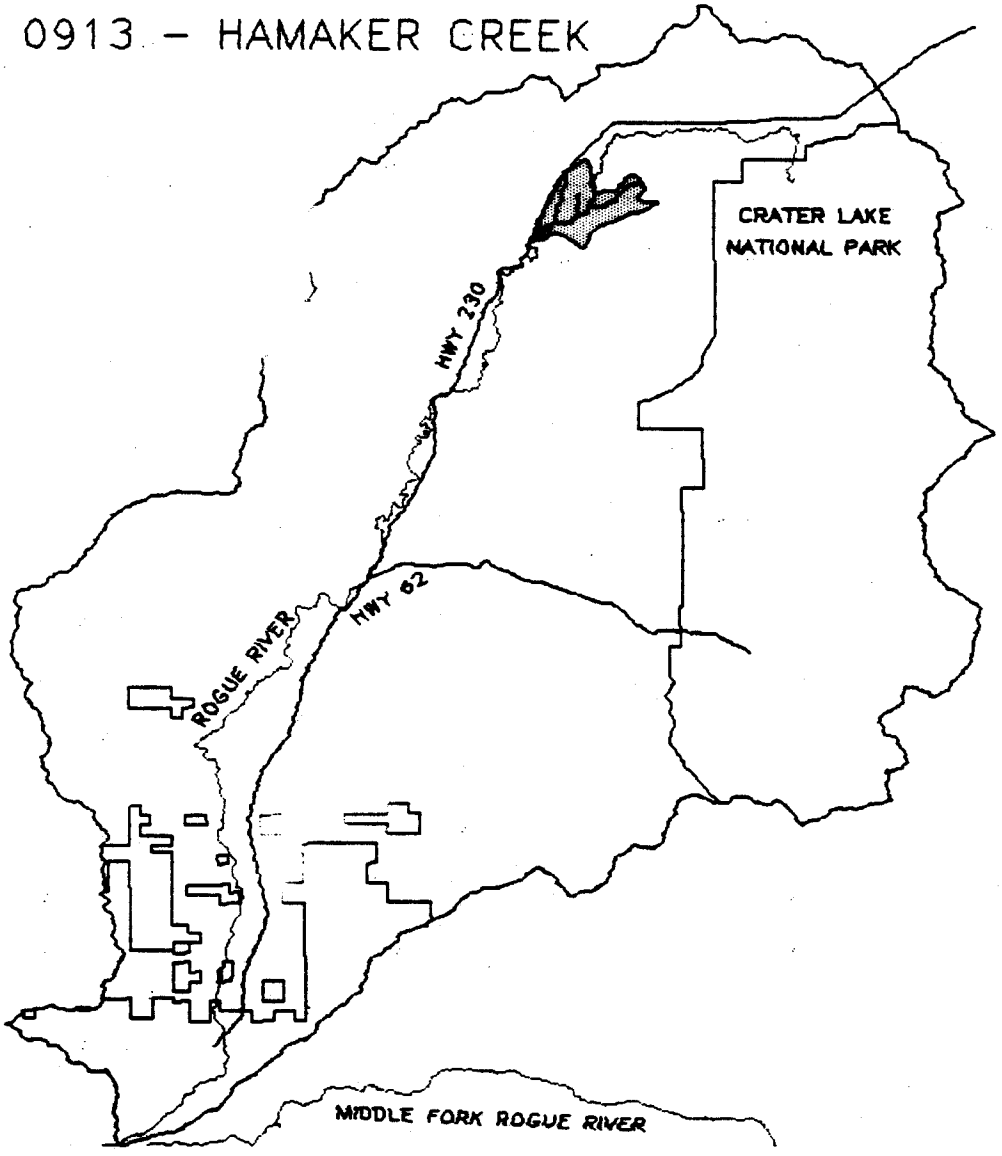


L. S. R.



Matrix

0913 – HAMAKER CREEK



0913 - HAMAKER CREEK

Current Conditions and Recommendations

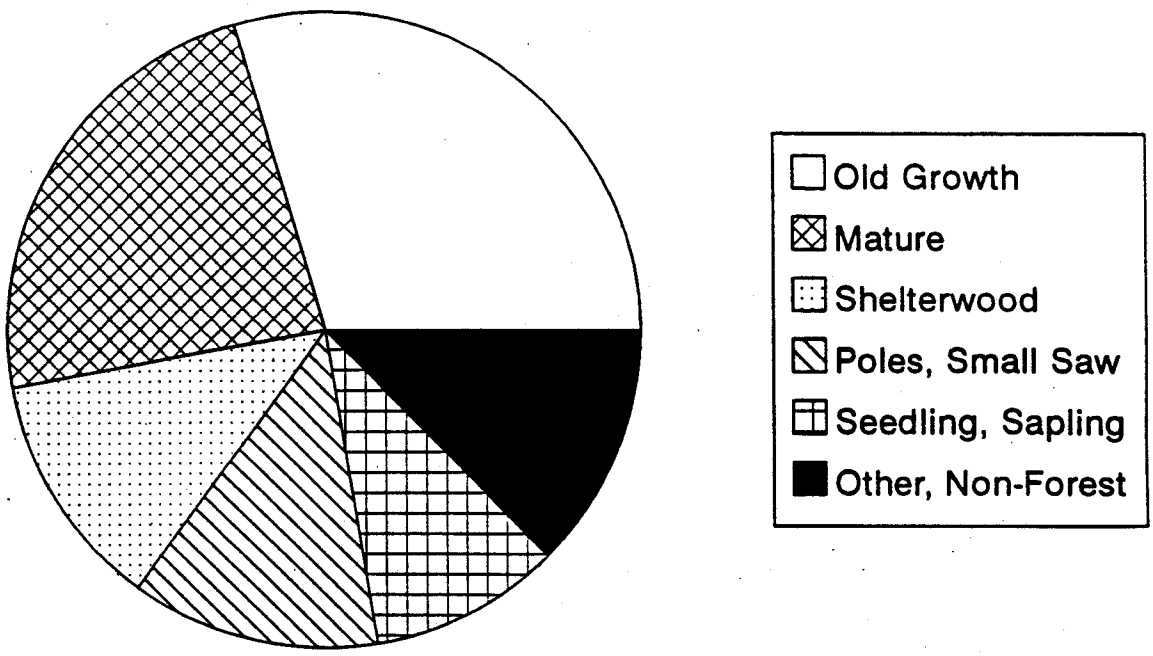
CURRENT CONDITION:

Vegetation:		
	FAIR/ GOOD	Highly variable, mostly true fir zone, sedge a problem, timber harvesting 1963-1990, clearcuts predominate harvested areas
Soils:		
	POOR	Lower slopes pumice, compacted and displaced where logged, lack of nutrients in pumice soils. Upper slopes glaciated rocky soils (cobble boulder size), land slides, wetlands in units.
Aquatics:		
	UN-KNOWN	Need stream inventory.
Hydrology:		
	POOR	High harvest impacts near springs and wetlands in the upper watershed
Wildlife Habitat:		
	GOOD	High road density, wetlands degraded by beaver trapping
OVERALL:		
	POOR/FAIR	

RECOMMENDATIONS:

- Limit any further timber harvest
- Implement the allotment plan
- Ban beaver trapping
- Upland silviculture needed for stocking level density control
- Reduce road density
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0913 - Hamaker Creek



0913 - Hamaker Creek

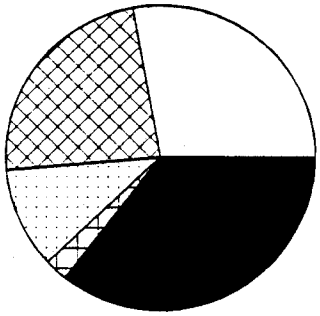
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	162	0	136	290	0	0	588
Mature	136	0	110	216	0	0	462
Shelterwood	62	0	24	156	0	0	242
Poles, Small Saw	0	0	46	202	2	0	250
Seedling, Sapling	14	0	72	110	0	0	196
Other, Non-Forest	206	0	38	6	0	0	250
Total:	580	0	426	980	2	0	1,988
(Row Percents)	29%	0%	21%	49%	0%	0%	100

(Column Percents)

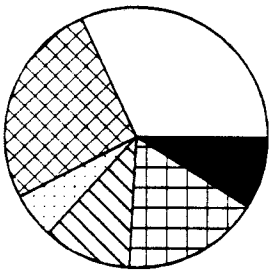
Old Growth	28%	-	32%	30%	0%	-	30%
Mature	23%	-	26%	22%	0%	-	23%
Shelterwood	11%	-	6%	16%	0%	-	12%
Poles, Small Saw	0%	-	11%	21%	100%	-	13%
Seedling, Sapling	2%	-	17%	11%	0%	-	10%
Other, Non-Forest	36%	-	9%	1%	0%	-	13%
Total:	100%	-	100%	100%	100%	-	100%

Condition Class by Allocation

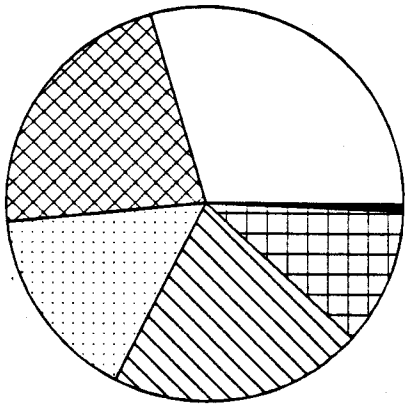
0913 - Hamaker Creek



Congr. Res.

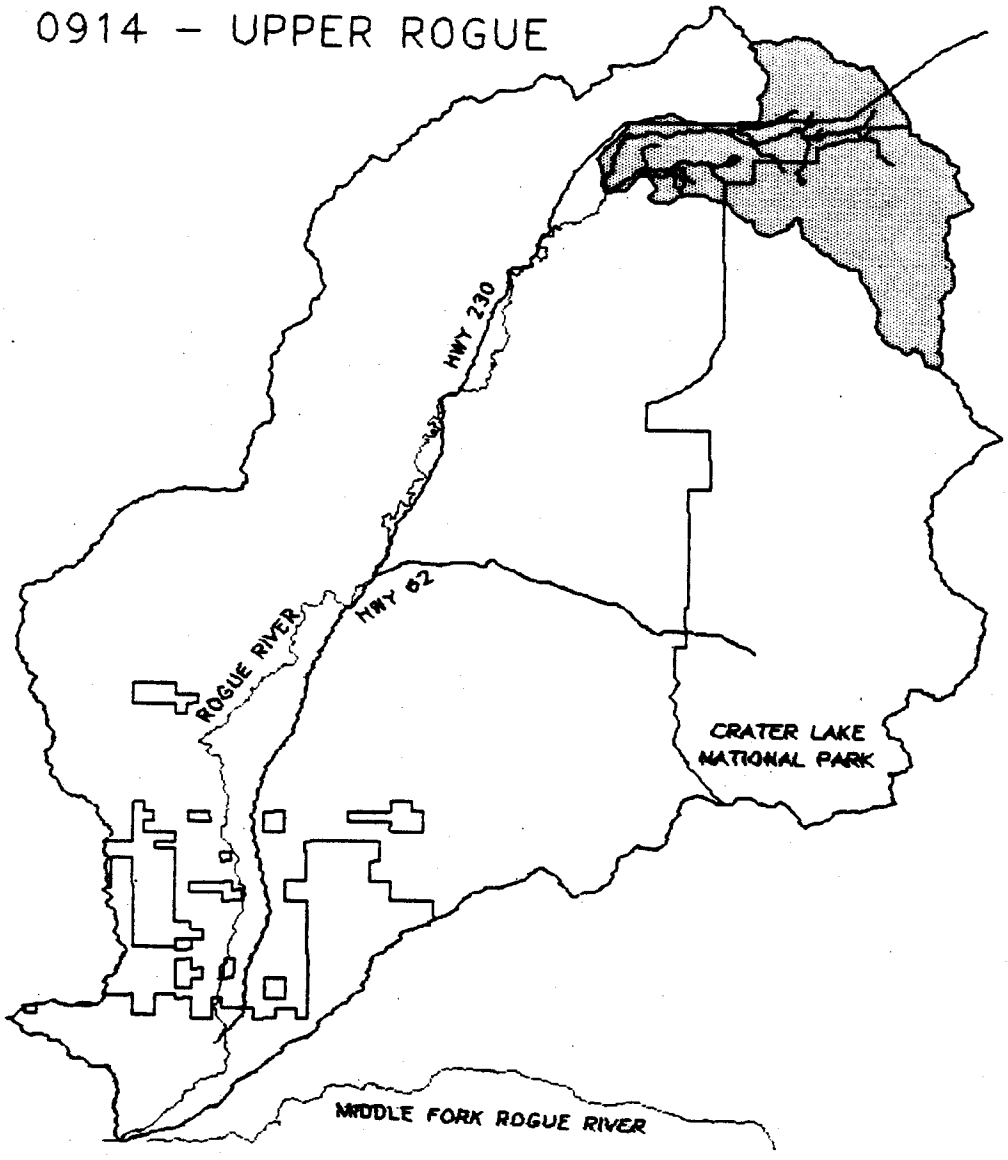


Riparian R.



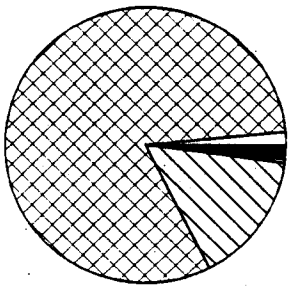
L. S. R.

0914 – UPPER ROGUE

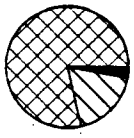


Condition Class by Allocation

0914 - Upper Rogue

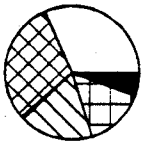


Congr. Res.

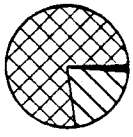


Admin. With.

Riparian R.

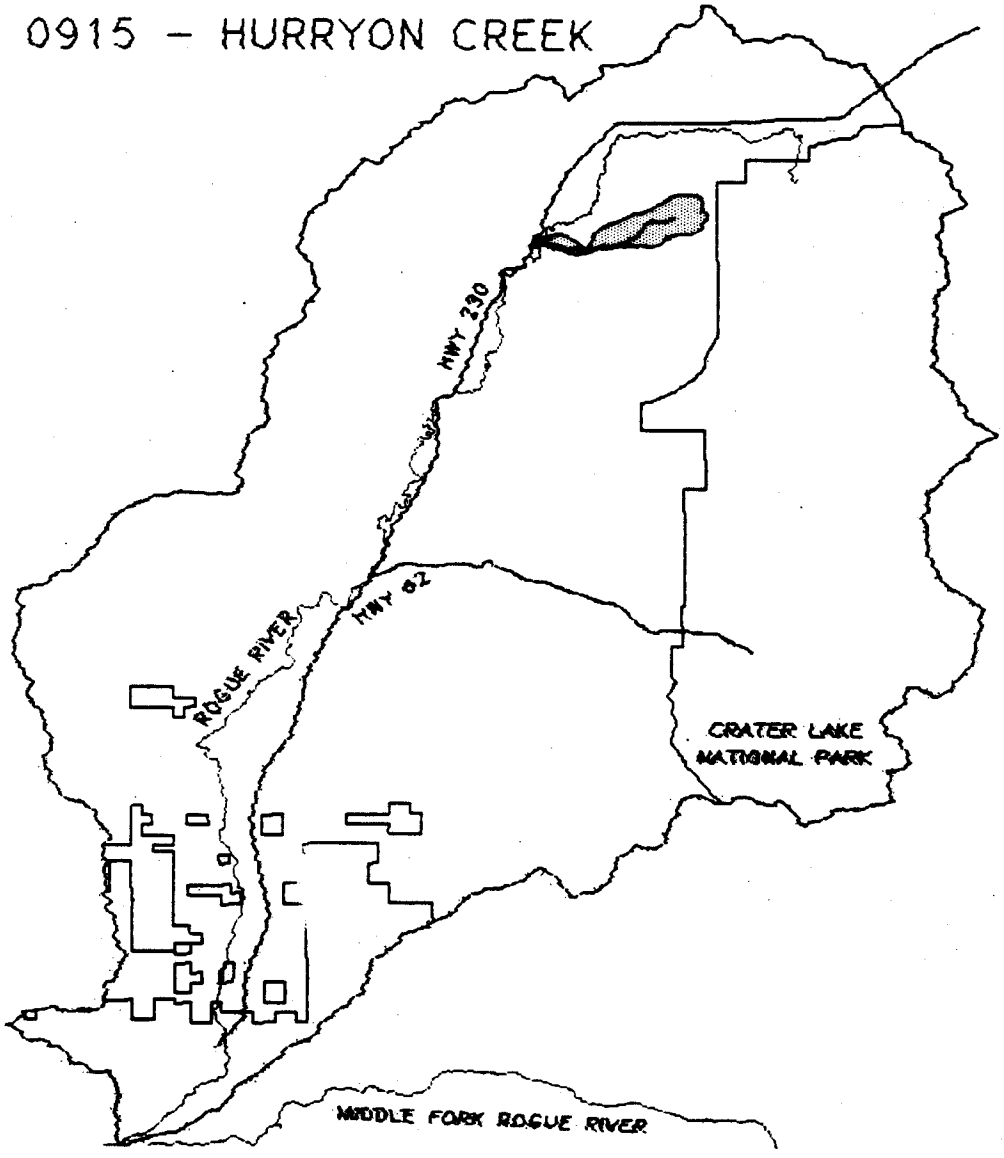


L. S. R.



Matrix

0915 – HURRYON CREEK



0915 - HURRYON CREEK

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:

F+IR/GOOD High frost impacts, timber harvesting 1961-1990, final removals predominate harvested areas

Soils:

POOR Lower slopes pumice, compacted and displaced where logged. Natural lack of nutrients in pumice soils exacerbated by machine piling. Glaciated rocky soils (cobble boulder size), incised pumice canyons.

Aquatics:

FAIR/ GOOD Good fish populations, upper area impacted by harvest operations and cattle grazing.

Hydrology:

GOOD Stream channel conditions good, water temperatures are low, some encroachment into riparian reserves from timber harvesting in upper watershed

Wildlife Habitat:

POOR Lack of late successional forest, high road density, grazing impacts to meadows on Forest Service lands

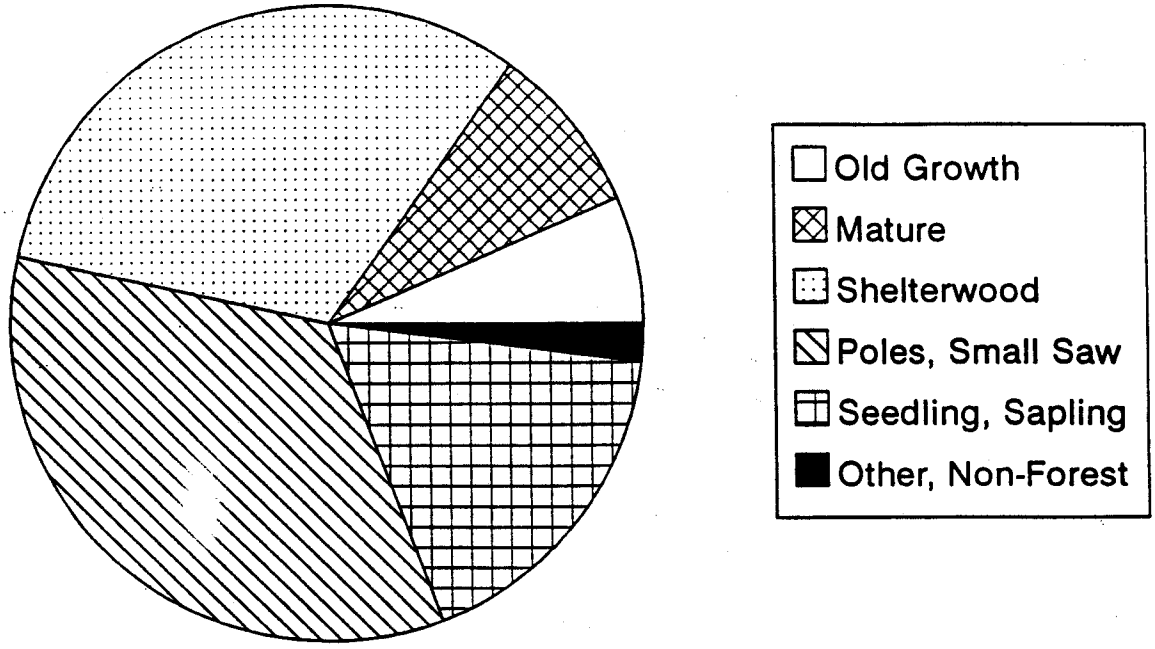
OVERALL:

NFS FAIR/GOOD, CLNP GOOD to EXCELLENT

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control
- Implement allotment plan
- Maintain incised pumice canyon buffers
- Riparian silviculture needed for streamside vegetation, riparian planting of conifers
- Multi-story development
- Reduce road density
- Fence or control livestock
- Instream habitat restoration: add LWM, boulders
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0915 - Hurryon Creek



0915 - Hurryon Creek

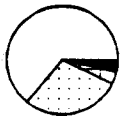
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	36	0	62	6	0	0	104
Mature	0	0	90	26	24	0	140
Shelterwood	16	0	128	202	164	0	510
Poles, Small Saw	0	0	90	36	430	0	556
Seedling, Sapling	2	0	86	18	174	0	280
Other, Non-Forest	2	0	22	0	8	0	32
Total:	56	0	478	288	800	0	1,622
(Row Percents)	3%	0%	29%	18%	49%	0%	100

(Column Percents)

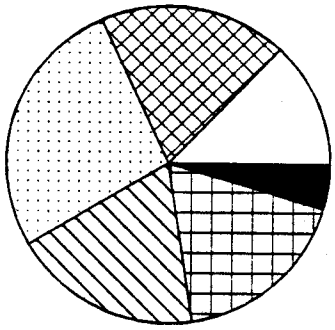
Old Growth	64%	-	13%	2%	0%	-	6%
Mature	0%	-	19%	9%	3%	-	9%
Shelterwood	29%	-	27%	70%	21%	-	31%
Poles, Small Saw	0%	-	19%	13%	54%	-	34%
Seedling, Sapling	4%	-	18%	6%	22%	-	17%
Other, Non-Forest	4%	-	5%	0%	1%	-	2%
Total:	100%	-	100%	100%	100%	-	100%

Condition Class by Allocation

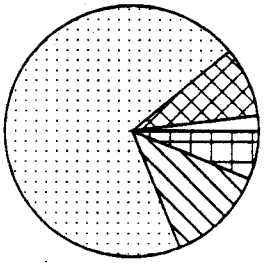
0915 - Hurryon Creek



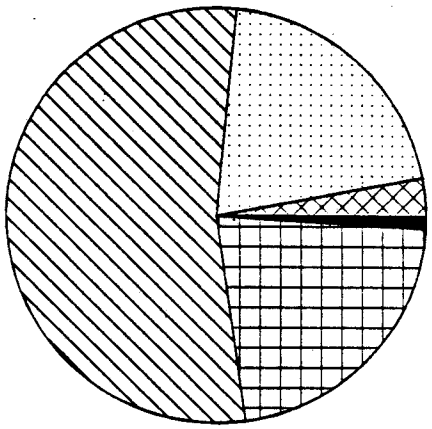
Congr. Res.



Riparian R.

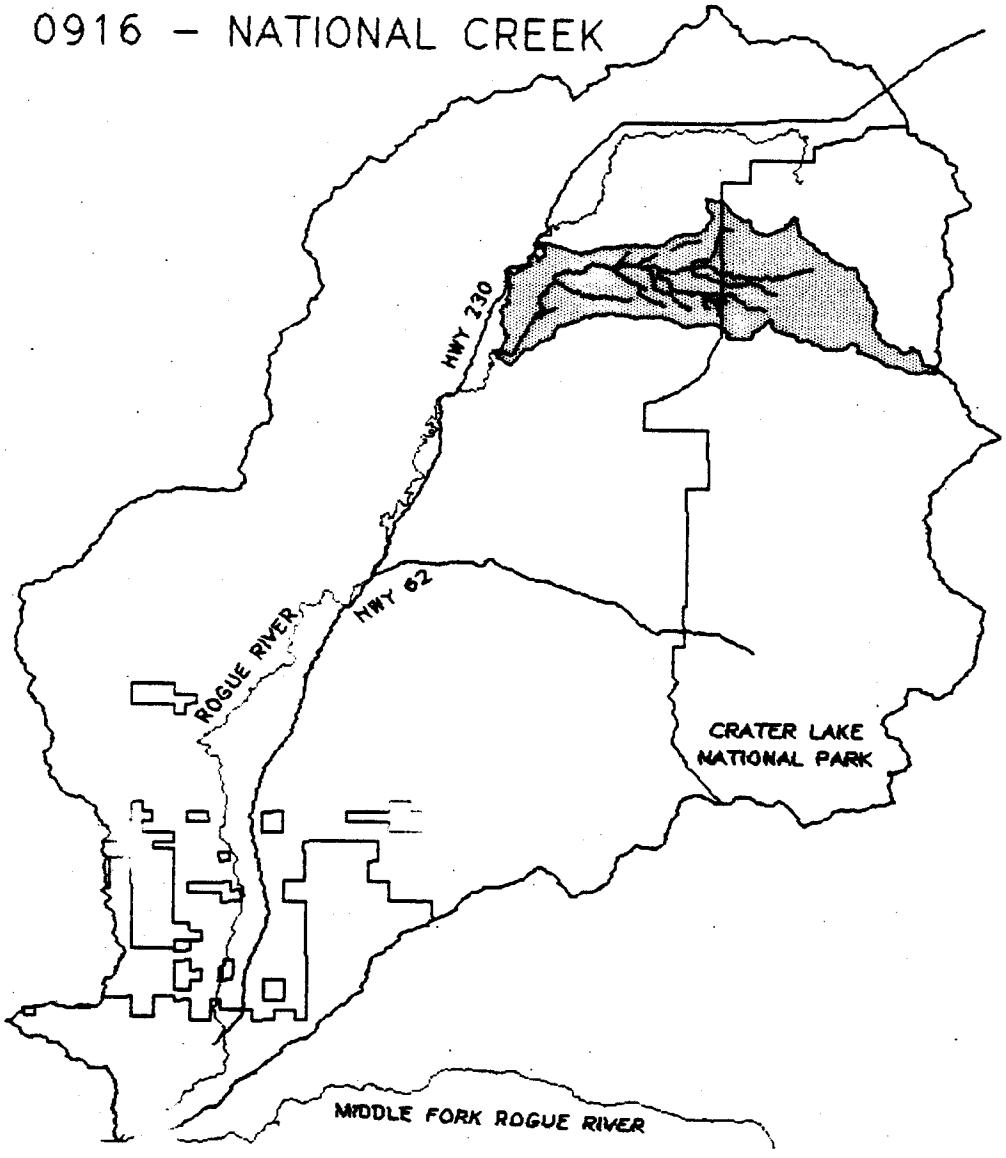


L. S. R.



Matrix

0916 – NATIONAL CREEK



0916 - NATIONAL CREEK

Current Conditions and Recommendations

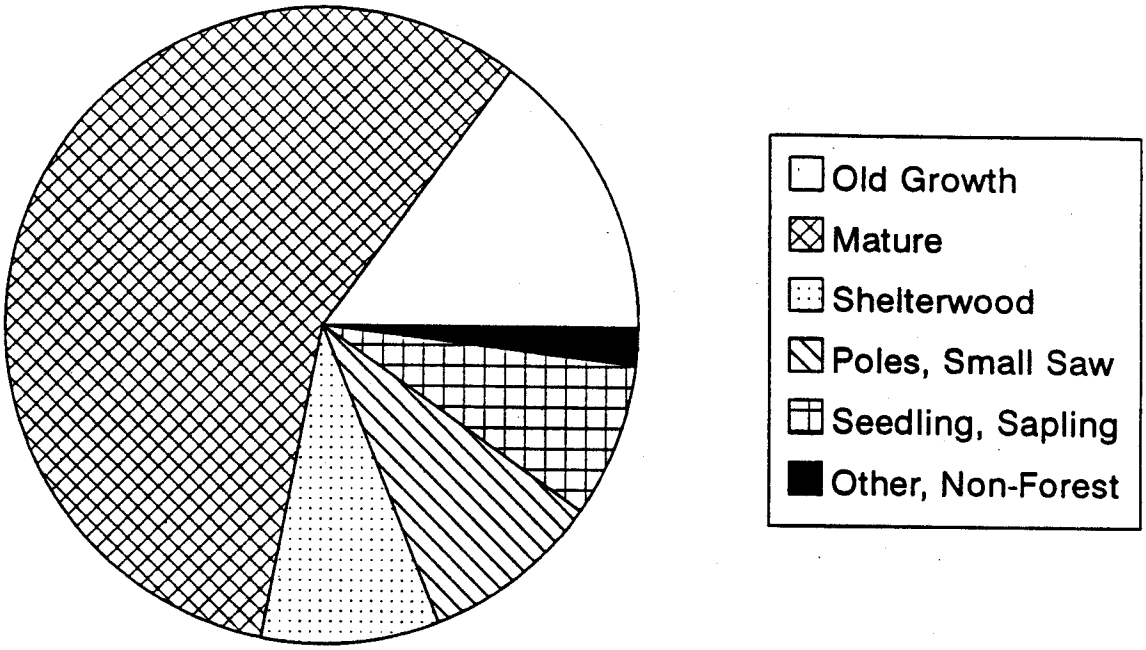
CURRENT CONDITION:

Vegetation:	**FAIR/ GOOD**	Heavy frost impacts, compaction by site prep (machine piling) has caused loss of site productivity. Dwarf mistletoe infection heavy in mountain hemlock and deforms trees or allow snow and wind breakage that greatly reduces the growth and value of trees. Timber harvesting 1959-1989, shelterwoods predominate harvested areas
Soils:	**POOR**	Lower slopes pumice, compacted and displaced where logged. Natural lack of nutrients in pumice soils exacerbated by machine piling. Upper slopes glaciated rocky soils (cobble boulder size), wetlands in units.
Aquatics:	**GOOD**	Good amount of large woody debris, good fish populations though cold temperatures are limiting, upper area impacted by harvest operations and cattle grazing.
Hydrology:	**GOOD**	Soils impacted by site prep (machine piling) as much as harvest operations, channels good to excellent
Wildlife Habitat:	**POOR**	Lack of late successional forests on Forest Service lands, high road density
OVERALL:	**NFS FAIR/GOOD, CLNP GOOD to EXCELLENT**	

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control (firewood opportunity)
- Implement allotment plan
- Maintain incised pumice canyon buffers
- Riparian silviculture needed for streamside vegetation
- Multi-story development
- Reduce road density
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0916 - National Creek



0916 - National Creek

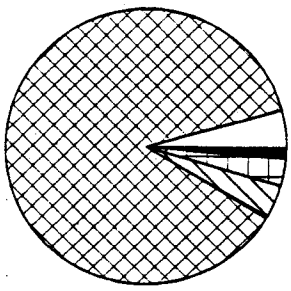
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	298	32	952	164	504	0	1,950
Mature	5,960	44	482	198	720	0	7,404
Shelterwood	16	2	172	280	710	0	1,180
Poles, Small Saw	262	8	176	214	534	0	1,194
Seedling, Sapling	214	0	74	144	586	0	1,018
Other, Non-Forest	92	0	80	0	84	0	256
Total:	6,842	86	1,936	1,000	3,138	0	13,002
(Row Percents)	53%	1%	15%	8%	24%	0%	100

(Column Percents)

Old Growth	4%	37%	49%	16%	16%	-	15%
Mature	87%	51%	25%	20%	23%	-	57%
Shelterwood	0%	2%	9%	28%	23%	-	9%
Poles, Small Saw	4%	9%	9%	21%	17%	-	9%
Seedling, Sapling	3%	0%	4%	14%	19%	-	8%
Other, Non-Forest	1%	0%	4%	0%	3%	-	2%
Total:	100%	100%	100%	100%	100%	-	100%

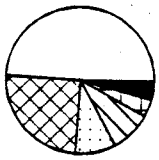
Condition Class by Allocation

0916 - National Creek

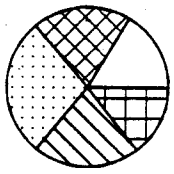


Congr. Res.

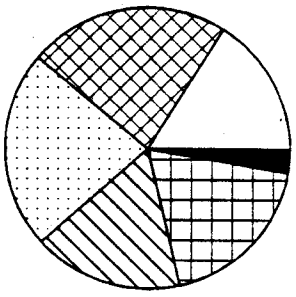
Admin. With.



Riparian R.

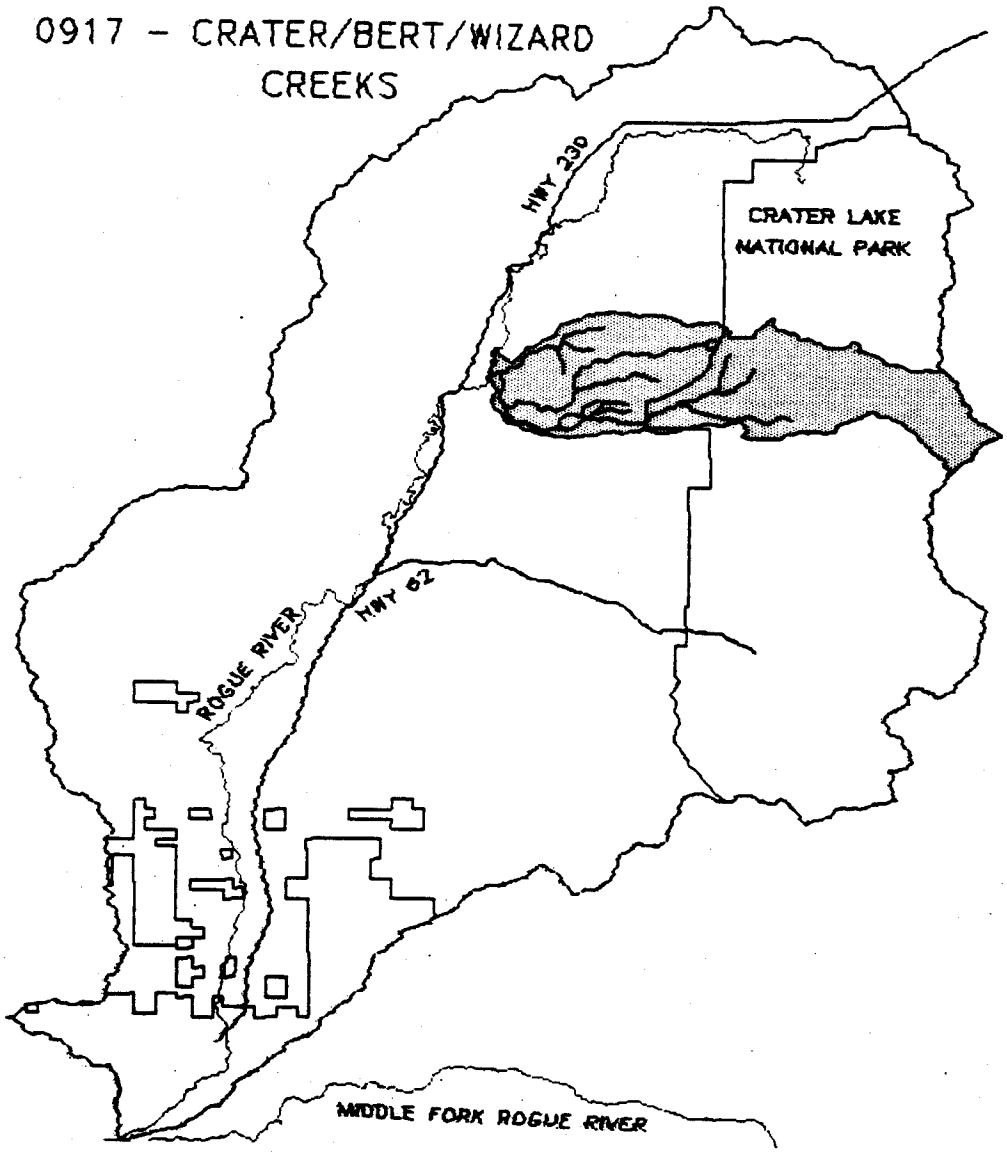


L. S. R.



Matrix

0917 - CRATER/BERT/WIZARD CREEKS



0917 - CRATER/BERT/WIZARD CREEKS

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:	**FAIR/ GOOD**	Heavy frost impacts, compaction from site prep (machine piling), true fir dominates, timber harvesting 1957-1989, shelterwoods predominate harvested areas
Soils:	**POOR**	South edge pumice, compacted and displaced where logged, incised pumice canyons. Natural lack of nutrients in pumice soils exacerbated by machine piling. East edge glaciated rocky soils (cobble boulder size), wetlands.
Aquatics:	**FAIR/ GOOD**	Good fish populations, Upper area impacted by harvest and cattle.
Hydrology:	**GOOD**	Channels in good condition, have been protected from logging impacts by large buffers. Occasional impacts from cattle.
Wildlife Habitat:	**POOR**	Lack of late successional forests on Forest Service lands, high road density

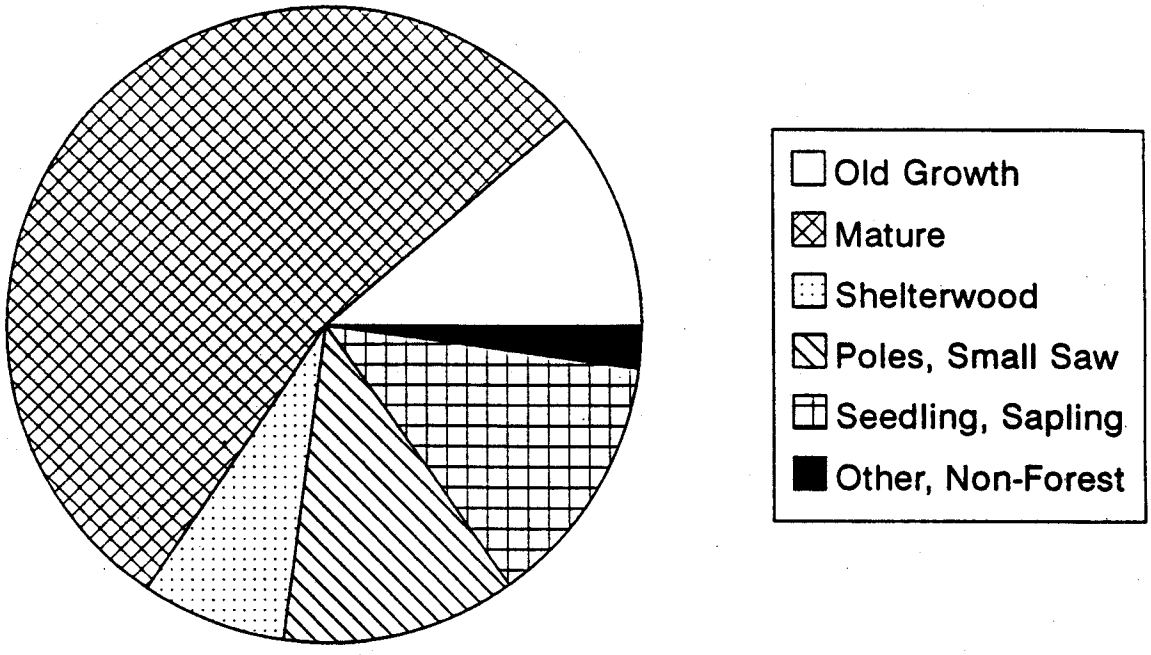
OVERALL:

CLNP GOOD to EXCELLENT, NFS FAIR/GOOD

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control
- Implement allotment plan
- Maintain incise pumice canyon buffers
- Ban beaver trapping
- Multi-story development
- Reduce road density
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0917 - Crater/Bert/Wizard



0917 - Crater/Bert/Wizard

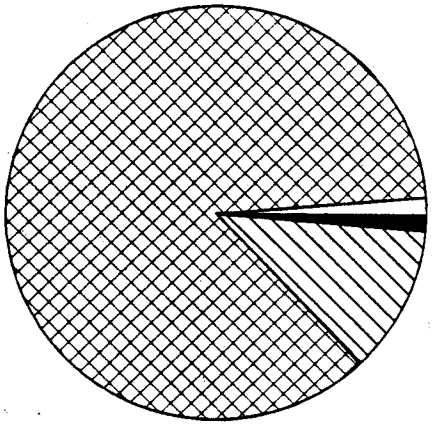
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	132	0	1,180	318	316	0	1,946
Mature	8,282	0	432	326	402	0	9,442
Shelterwood	12	0	258	310	684	0	1,264
Poles, Small Saw	1,108	0	220	424	348	0	2,100
Seedling, Sapling	8	0	482	468	1,292	0	2,250
Other, Non-Forest	116	0	96	16	156	0	384
Total:	9,658	0	2,668	1,862	3,198	0	17,386
(Row Percents)	56%	0%	15%	11%	18%	0%	100

(Column Percents)

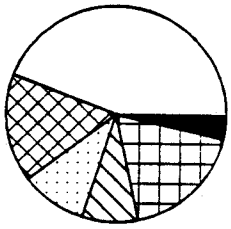
Old Growth	1%	-	44%	17%	10%	-	11%
Mature	86%	-	16%	18%	13%	-	54%
Shelterwood	0%	-	10%	17%	21%	-	7%
Poles, Small Saw	11%	-	8%	23%	11%	-	12%
Seedling, Sapling	0%	-	18%	25%	40%	-	13%
Other, Non-Forest	1%	-	4%	1%	5%	-	2%
Total:	100%	-	100%	100%	100%	-	100%

Condition Class by Allocation

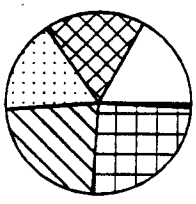
0917 - Crater/Bert/Wizard



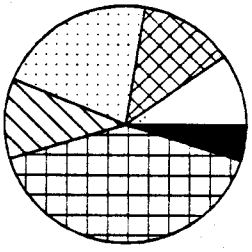
Congr. Res.



Riparian R.

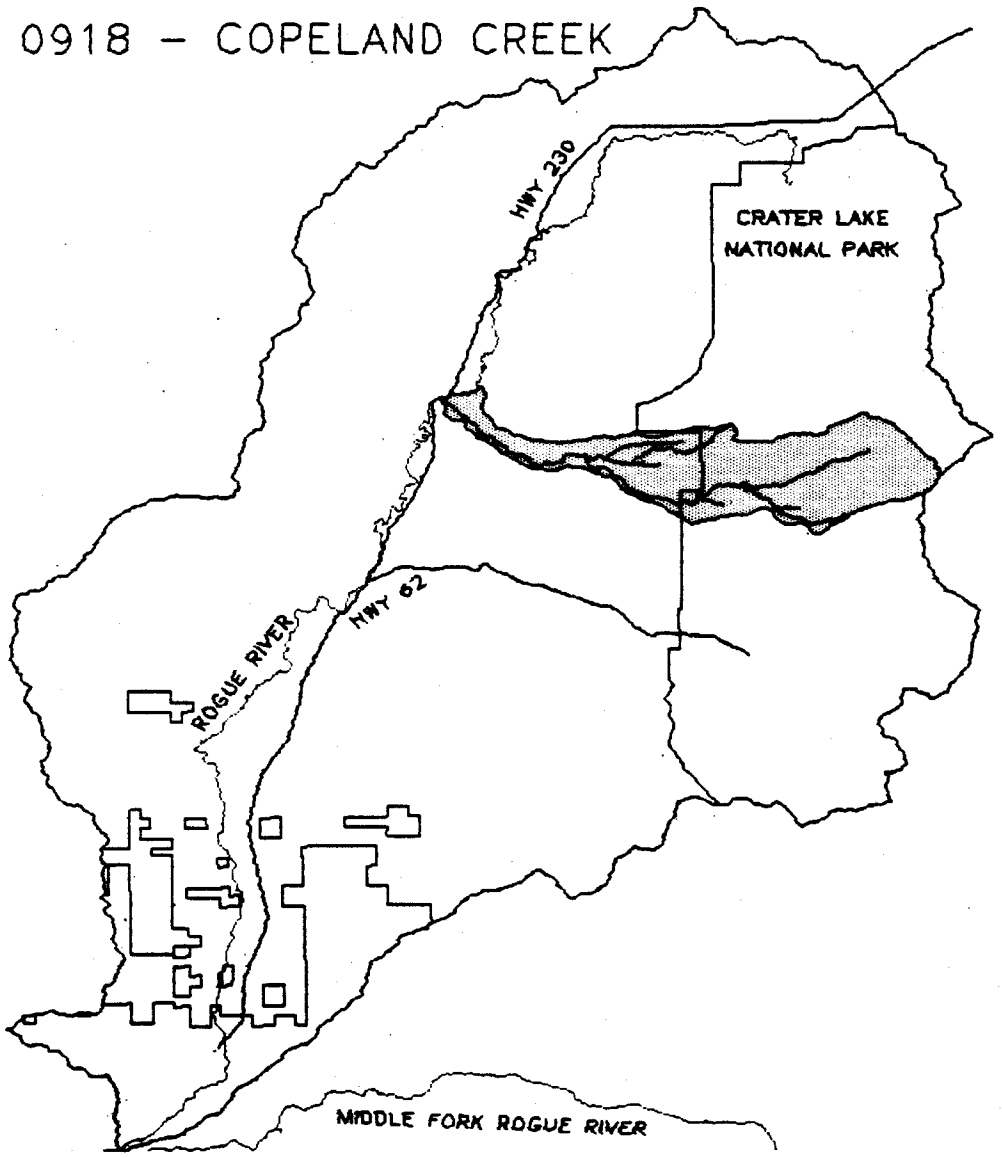


L. S. R.



Matrix

0918 – COPELAND CREEK



0918 - COPELAND CREEK

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:		
	POOR/ GOOD	Highly variable due to frost, soils (nutrients and compaction), and animal damage, timber harvesting 1959-1993, clearcuts predominate harvested areas
Soils:		
	POOR	Pumice soils, compacted and displaced where logged, incised pumice canyons. Natural lack of nutrients in pumice soils exacerbated by machine piling.
Aquatics:		
	GOOD	Good amount of large woody debris, good fish populations though cold temperatures are limiting, upper area impacted by harvest operations and cattle grazing.
Hydrology:		
	GOOD	Channels in good condition, have been protected from logging impacts by large buffers. Occasional impacts from cattle.
Wildlife Habitat:		
	POOR	Lack of late successional forests on Forest Service lands, high road density near CLNP boundary

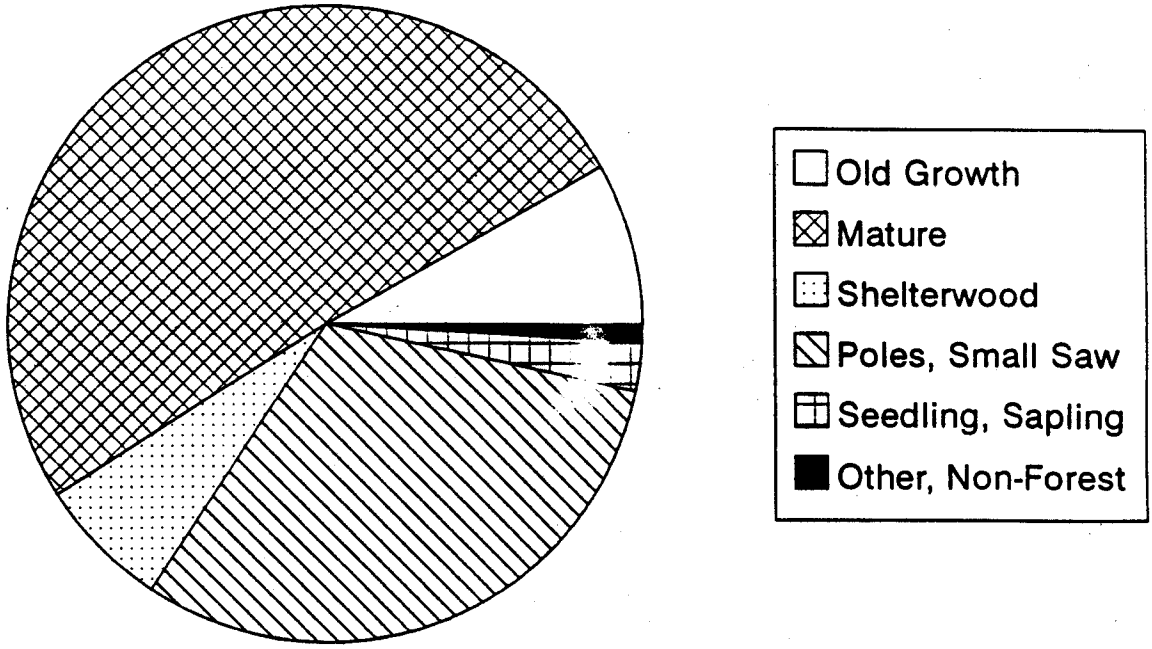
OVERALL:

NFS FAIR/GOOD, CLNP GOOD to EXCELLENT

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control
- Implement allotment plan
- Firewood program opportunities to benefit stocking levels, insect & disease control and fuel breaks.
- Multi-story development
- Reduce road density along CLNP boundary
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0918 - Copeland Creek



0918 - Copeland Creek

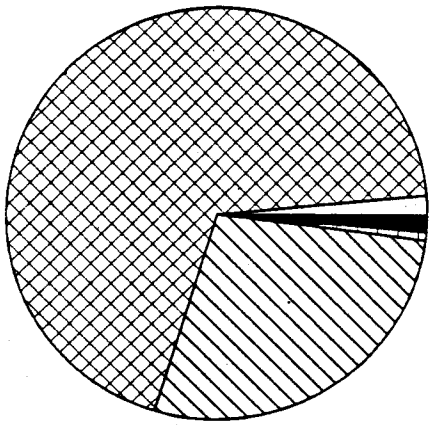
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	116	0	[illegible]	4	196	0	978
Mature	5,362	0	[illegible]	10	420	0	5,964
Shelterwood	0	0	128	42	622	0	792
Poles, Small Saw	2,156	0	186	46	1,248	0	3,636
Seedling, Sapling	52	0	56	18	164	0	290
Other, Non-Forest	102	0	8	0	4	0	114
Total:	7,788	0	1,212	120	2,654	0	11,774
(Row Percents)	66%	0%	10%	1%	23%	0%	100

(Column Percents)

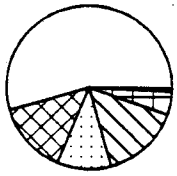
Old Growth	1%	-	55%	3%	7%	-	8%
Mature	69%	-	14%	8%	16%	-	51%
Shelterwood	0%	-	11%	35%	23%	-	7%
Poles, Small Saw	28%	-	15%	38%	47%	-	31%
Seedling, Sapling	1%	-	5%	15%	6%	-	2%
Other, Non-Forest	1%	-	1%	0%	0%	-	1%
Total:	100%	-	100%	100%	100%	-	100%

Condition Class by Allocation

0918 - Copeland Creek

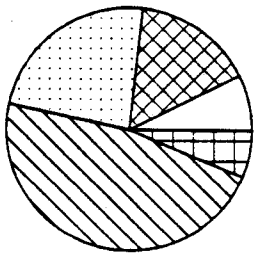


Congr. Res.



Riparian R.

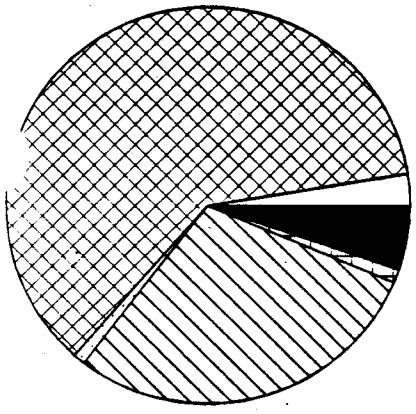
L. S. R.



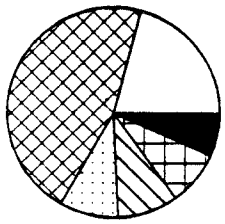
Matrix

Condition Class by Allocation

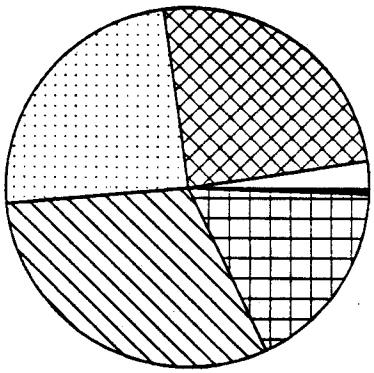
0919 - Bybee/Rock/Deer



Congr. Res.

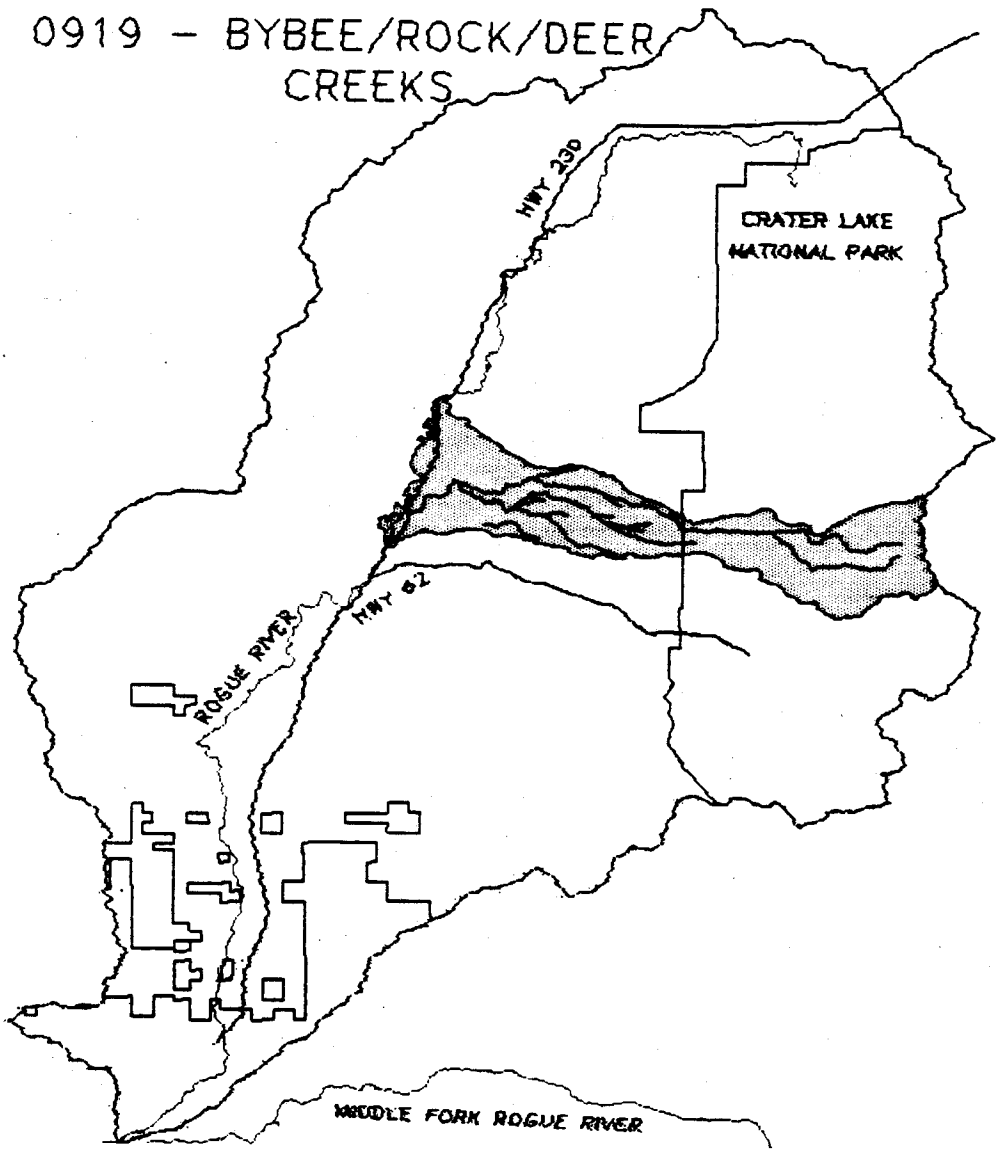


Riparian R.



Matrix

0919 - BYBEE/ROCK/DEER CREEKS



0919 - BYBEE/ROCK/DEER CREEK

Current Conditions and Recommendations

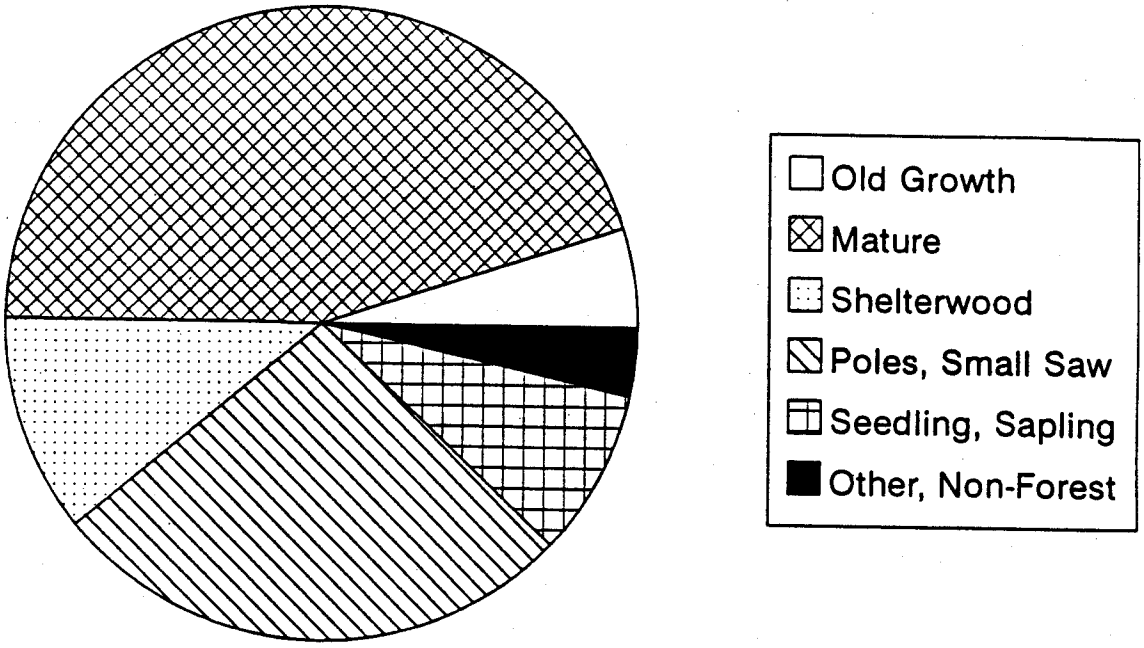
CURRENT CONDITION:

Vegetation:	**POOR/ GOOD**	Heavily impacted by frost, gophers, deer & elk browse, compacted soils, and root rot diseases, off-site pine plantations plentiful due to early and heavy harvesting in this watershed. Western gall rust in ponderosa pine (generally off-site plantations) has greatly deformed trees and reduces growth and market value of trees. Gopher damage is heavy. Timber harvesting 1950-1991, clearcuts predominate harvested areas
Soils:	**POOR**	South edge pumice, compacted and displaced where logged, incised pumice canyons. Natural lack of nutrients in pumice soils exacerbated by machine piling. East edge glaciated rocky soils (cobble boulder size), wetlands.
Aquatics:	**GOOD**	Good amount of large woody debris, good fish populations though cold temperatures are limiting, upper area impacted by harvest operations and cattle grazing.
Hydrology:	**GOOD**	Channels in good condition, have been protected from logging impacts by large buffers. Occasional impacts from cattle.
Wildlife Habitat:	**POOR**	Lack of late successional forest on Forest Service lands, high road density, trapping, cattle impacts to wetlands, lack of high quality forage
OVERALL:	**CLNP GOOD to EXCELLENT, NFS GOOD to EXCELLENT**	

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control (firewood opportunity)
- Implement allotment plan
- Maintain incised pumice canyon buffers
- Treat root rot infection areas by converting to species less susceptible
- Treat off-site pine plantations by converting to a more diverse plant community. May be able to utilize off-site pine as special forest product for funding.
- Multi-story development
- Reduce road density
- Create long-term forage base
- Ban beaver trapping
- Fence or control livestock
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0919 - Bybee/Rock/Deer



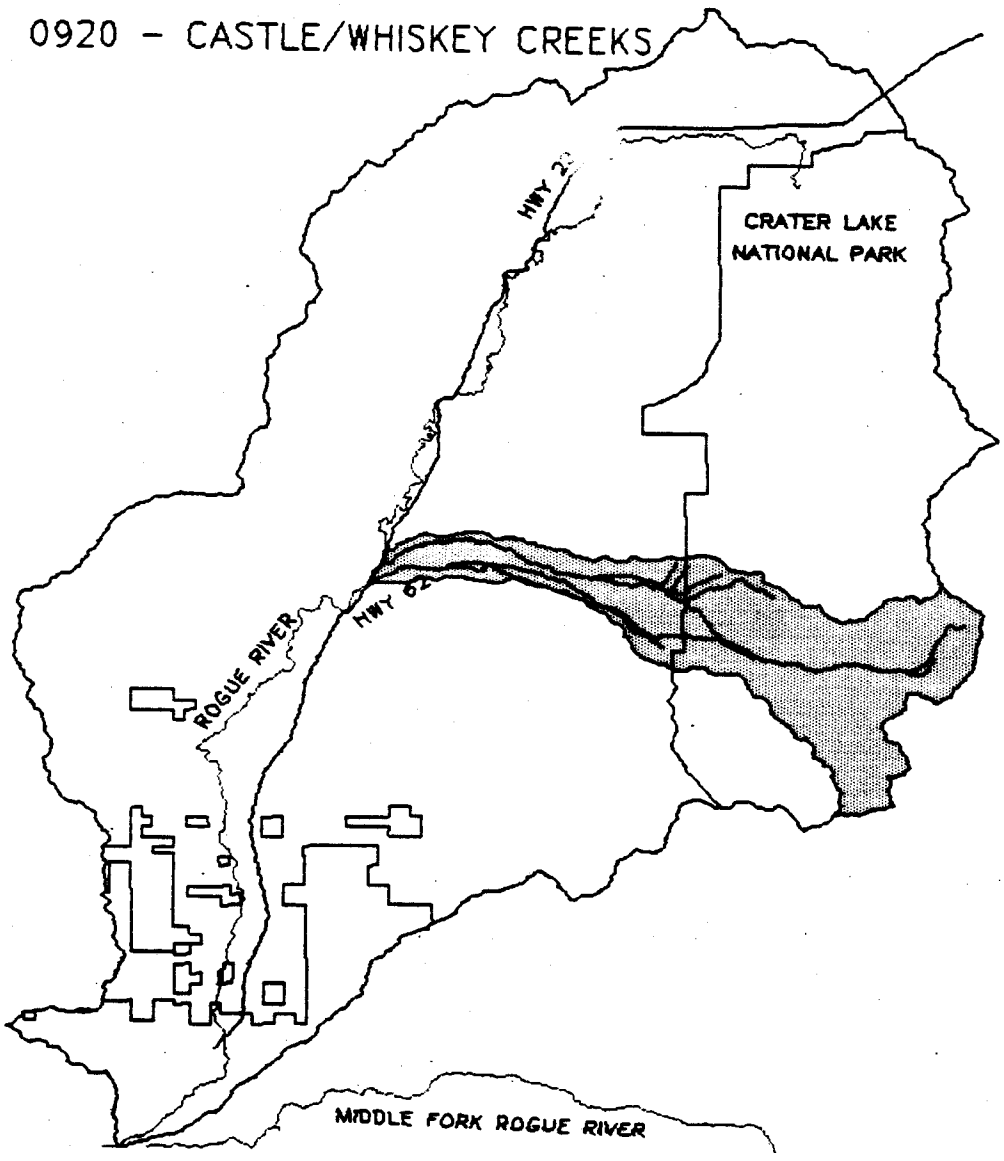
0919 - Bybee/Rock/Deer

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	200	0	452	0	158	0	810
Mature	4,676	0	988	0	1,564	0	7,228
Shelterwood	74	0	192	0	1,530	0	1,796
Poles, Small Saw	2,218	0	198	0	1,932	0	4,348
Seedling, Sapling	88	0	182	0	1,102	0	1,372
Other, Non-Forest	398	0	144	0	30	0	572
Total:	7,654	0	2,156	0	6,316	0	16,126
(Row Percents)	47%	0%	13%	0%	39%	0%	100

(Column Percents)

Old Growth	3%	-	21%	-	3%	-	5%
Mature	61%	-	46%	-	25%	-	45%
Shelterwood	1%	-	9%	-	24%	-	11%
Poles, Small Saw	29%	-	9%	-	31%	-	27%
Seedling, Sapling	1%	-	8%	-	17%	-	9%
Other, Non-Forest	5%	-	7%	-	0%	-	4%
Total:	100%	-	100%	-	100%	-	100%

0920 - CASTLE/WHISKEY CREEKS



0920 - CASTLE/WHISKEY CREEKS

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:

POOR/ GOOD — Heavily impacted by frost, gophers, deer & elk browsing, compacted soils, root rot infections, off-site pine plantations are numerous, timber harvesting 1950-1993, shelterwoods predominate harvested areas

Soils:

POOR — Pumice soils, compacted and displaced where logged, incised pumice canyons. Natural lack of nutrients in pumice soils exacerbated by machine piling.

Aquatics:

GOOD — Good amount of large woody debris, good fish populations though cold temperatures are limiting, upper area impacted by harvest operations and cattle grazing.

Hydrology:

GOOD — Channels in good condition, have been protected from logging impacts by large buffers. Occasional impacts from cattle. Castle has a natural condition of bare pumice walls inside CLNP, these bare walls erode continually.

Wildlife Habitat:

POOR — Lack of late successional forests on Forest Service lands, high road density, lack of quality forage

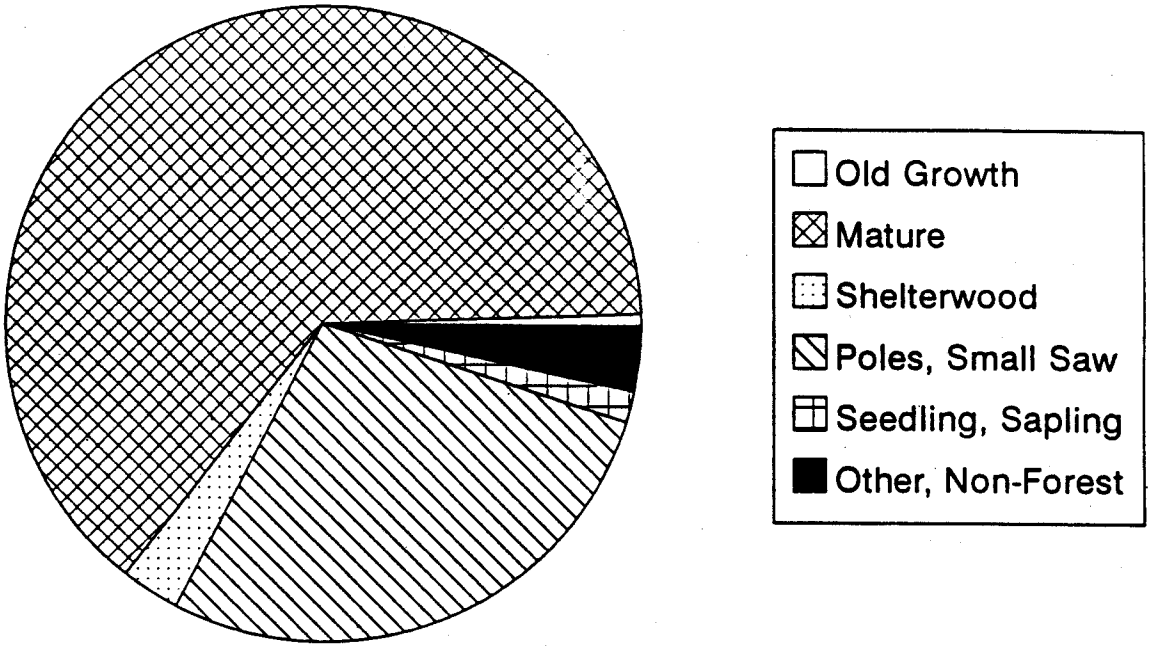
OVERALL:

CLNP GOOD to EXCELLENT, NFS FAIR

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control (firewood opportunity)
- Implement allotment plan
- Maintain incise pumice canyon buffers
- Treat root rot infection areas by converting to species less susceptible
- Treat off-site pine plantations by converting to diverse plant communities and plant highly rust resistant western white pine stock.
- Multi-story development
- Reduce road density
- Create long-term forage base
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0920 - Castle/Whisky



0920 - Castle/Whiskey

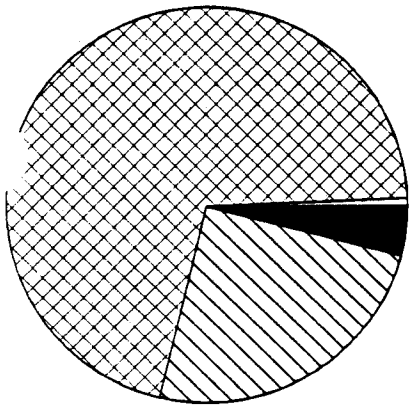
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	88	0	0	0	34	0	122
Mature	10,662	2	1,080	0	1,844	0	13,588
Shelterwood	0	0	90	0	556	0	646
Poles, Small Saw	3,718	0	440	0	1,756	0	5,914
Seedling, Sapling	0	0	28	0	302	0	330
Other, Non-Forest	618	0	62	0	30	0	710
Total:	15,086	2	1,700	0	4,522	0	21,310
(Row Percents)	71%	0%	8%	0%	21%	0%	100

(Column Percents)

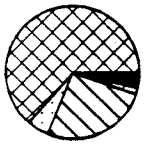
Old Growth	1%	-	0%	-	1%	-	1%
Mature	71%	-	64%	-	41%	-	64%
Shelterwood	0%	-	5%	-	12%	-	3%
Poles, Small Saw	25%	-	26%	-	39%	-	28%
Seedling, Sapling	0%	-	2%	-	7%	-	2%
Other, Non-Forest	4%	-	4%	-	1%	-	3%
Total:	100%	-	100%	-	100%	-	100%

Condition Class by Allocation

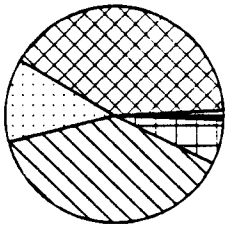
0920 - Castle/Whisky



Congr. Res.

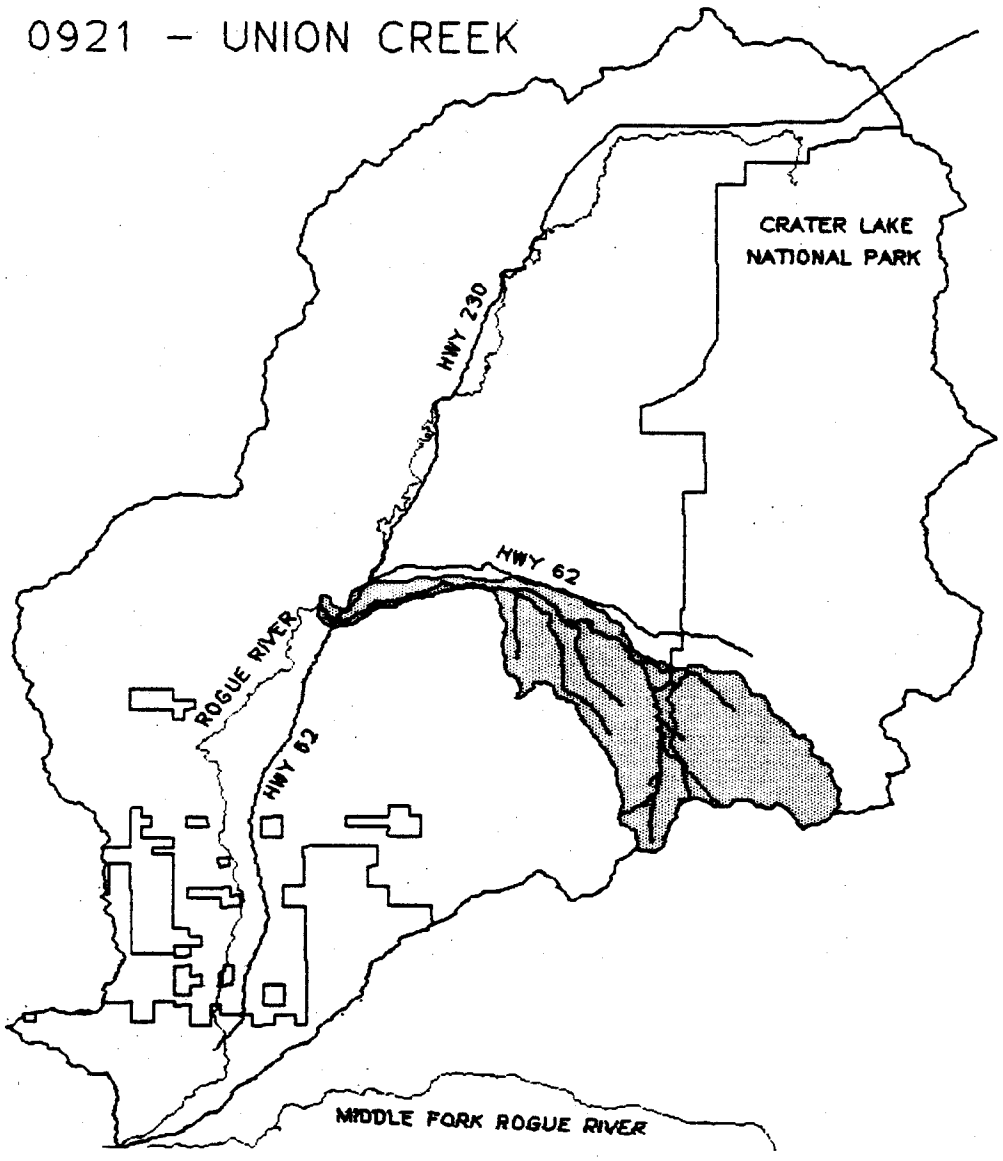


Riparian R.



Matrix

0921 – UNION CREEK



0921 - UNION CREEK

Current Conditions and Recommendations

CURRENT CONDITION:

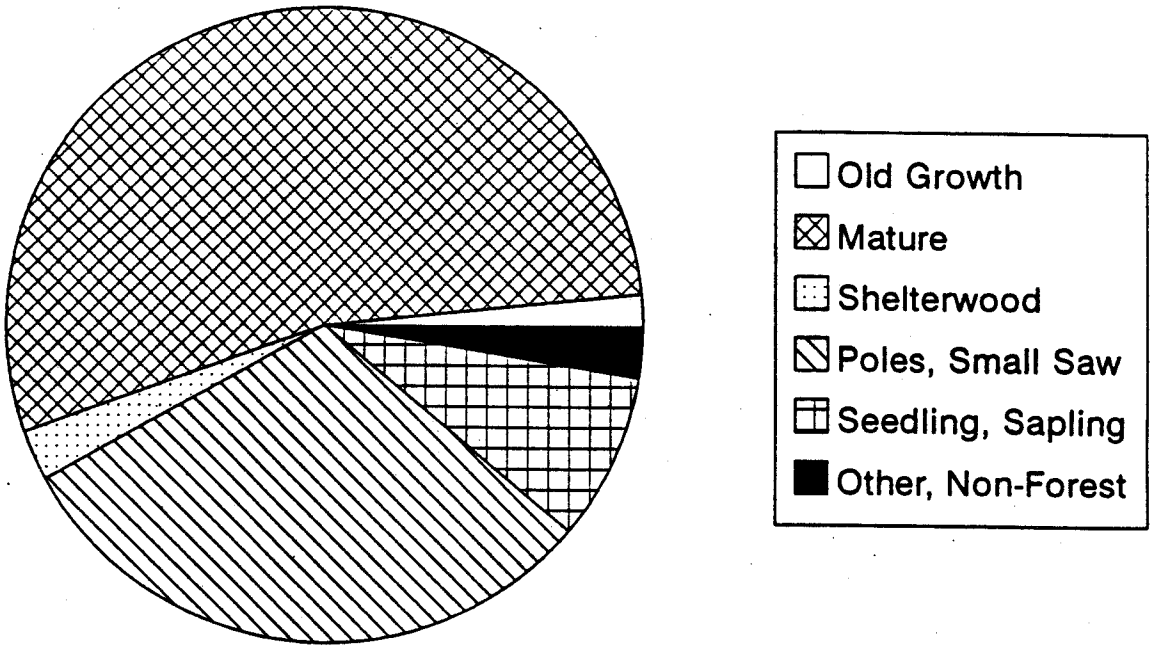
Vegetation:		
	POOR/ GOOD	Frost is a HEAVY impact as well as compacted soils due to harvest operations and machine site prep, true fir zone, gopher activity high, timber harvesting 1952-1993, clearcuts predominate harvested areas
Soils:		
	FAIR	Varied soils, pumice, glacial, basaltic, high cobble/boulder content. Natural lack of nutrients in pumice soils exacerbated by machine piling. Roading along the riparian. Displaced soils and compaction problems where tractor logging and machine piling has occurred.
Aquatics:		
	FAIR	Large Woody Material (LWM) abundant, pool frequency low, grazing impacts in lower reaches
Hydrology:		
	GOOD	Some encroachment into riparian reserve by past timber harvest in upper watershed. Also, some impacts from grazing along streams
Wildlife Habitat:		
	POOR	Lack of late successional forests on Forest Service lands, high road density, lack of quality forage, grazing degradation of meadows
OVERALL:		
	CLNP GOOD to EXCELLENT, NFS FAIR	

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control (proposed Crawtop T.S. will commercially thin stands in desperate need for stocking level control, firewood opportunity)
- Gopher control important as is big game browse control for conifer survival and growth.
- Multi-story development
- Reduce road density
- Create long-term forage base
- Fence or control livestock
- INstream habitat restoration: pool development
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition C'ass

0921 - Union C eek



0921 - Union Creek

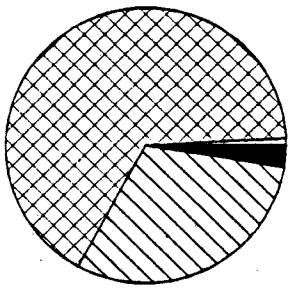
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	48	0	146	0	84	0	278
Mature	4,474	66	1,966	62	2,598	0	9,166
Shelterwood	0	0	76	0	360	0	436
Poles, Small Saw	2,044	32	844	16	2,320	0	5,256
Seedling, Sapling	20	0	442	32	944	0	1,438
Other, Non-Forest	164	4	172	0	96	0	436
Total:	6,750	102	3,646	110	6,402	0	17,010
(Row Percents)	40%	1%	21%	1%	38%	0%	100

(Column Percents)

Old Growth	1%	0%	4%	0%	1%	-	2%
Mature	66%	65%	54%	56%	41%	-	54%
Shelterwood	0%	0%	2%	0%	6%	-	3%
Poles, Small Saw	30%	31%	23%	15%	36%	-	31%
Seedling, Sapling	0%	0%	12%	29%	15%	-	8%
Other, Non-Forest	3%	4%	5%	0%	1%	-	3%
Total:	100%	100%	100%	100%	100%	-	100%

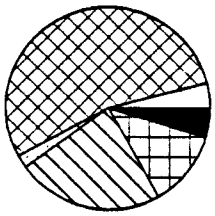
Condition Class by Allocation

0921 - Union Creek



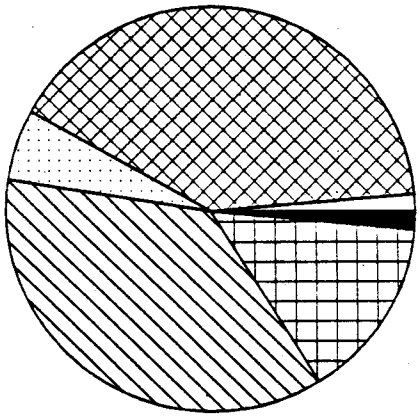
Congr. Res.

Admin. With.



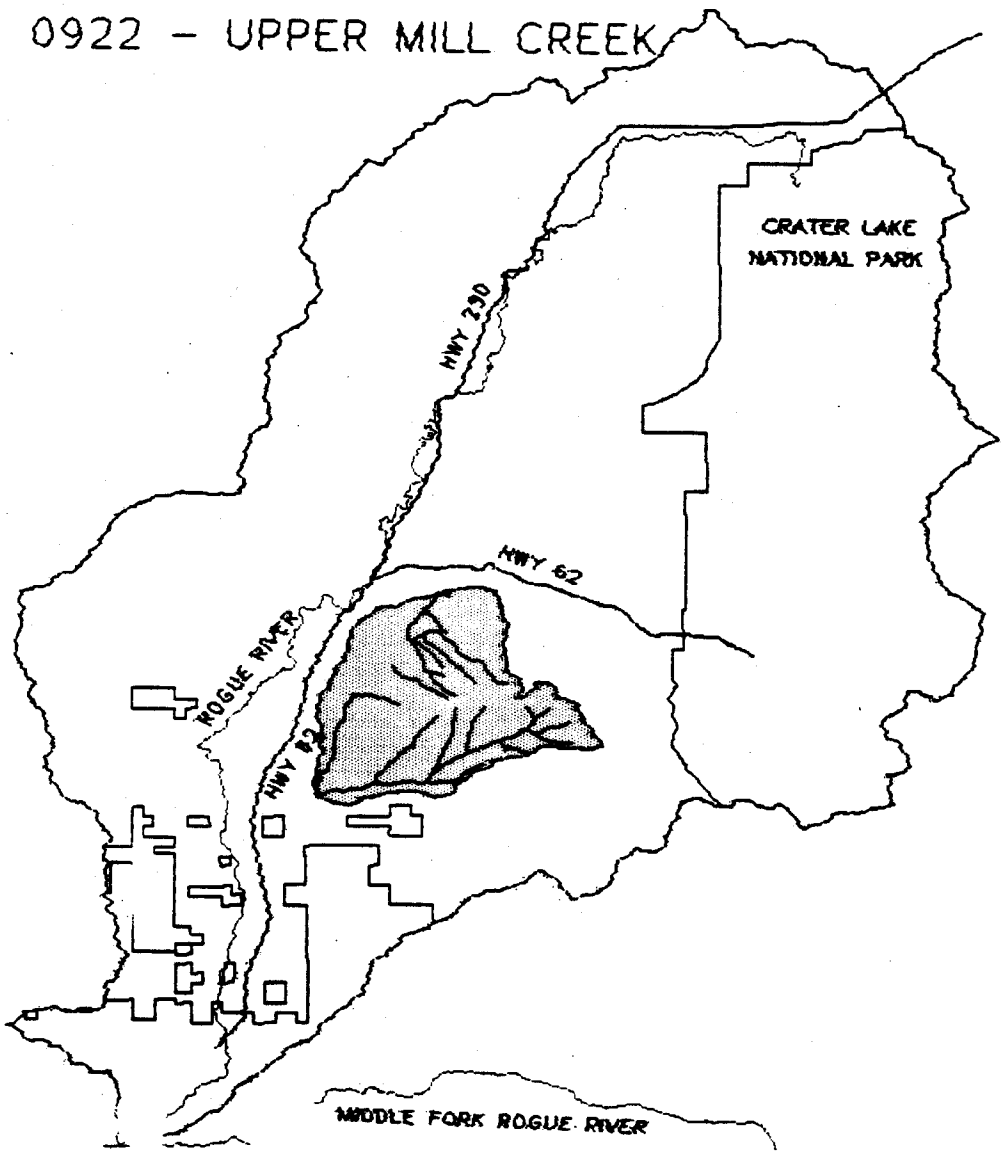
Riparian R.

L. S. R.



Matrix

0922 – UPPER MILL CREEK



0922 - UPPER MILL CREEK

Current Conditions and Recommendations

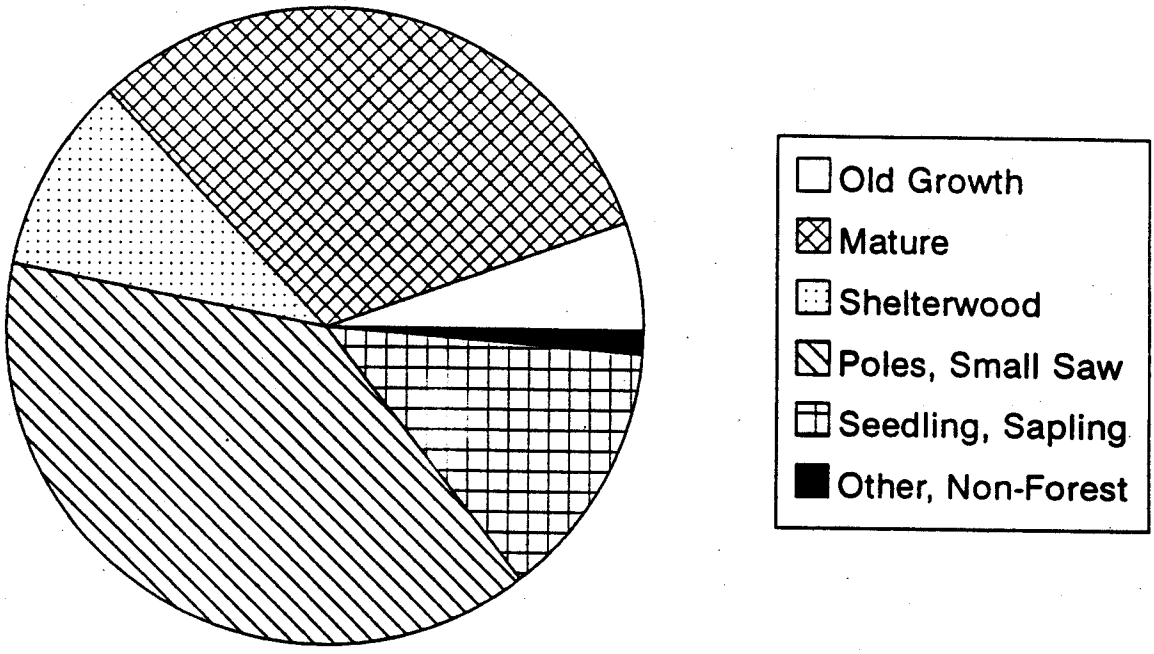
CURRENT CONDITION:

Vegetation:	**FAIR/ GOOD**	Huckleberry Burn (1910) big impact on the vegetative species composition. Frost, non-crop vegetation is competitor of note, highly variable conditions due to soils, compaction, frost and animal damage. Many acres of off-site pine plantations and brush-fields. Dwarf mistletoe infection common in Douglas-fir. Western gall rust has greatly deformed and reduced growth and value of pines (lodgepole and ponderosa) in the area. Western white pine and sugar pine have high mortality due to blister rust infection. Timber harvesting 1952-1994, shelterwoods predominate harvested areas
Soils:	**POOR-FAIR**	Upper flats have basalt derived soils, displaced soils, compaction in harvested areas. Steep canyons with displaced soils where entered by tractors. Western edge, lower slopes are pumice. Natural lack of nutrients in pumice soils exacerbated by machine piling. Center is an old burn, soils probably okay but south slope is droughty.
Aquatics:	**POOR**	Poor habitat, grazing impacts in meadows.
Hydrology:	**GOOD**	Good water quality, adequate buffers although there has been some encroachment into riparian reserves from timber harvest activities
Wildlife Habitat:	**POOR**	Lack of late successional forest at upper elevations and on flats, high road density, lack of quality forage
OVERALL:	**FAIR**	

RECOMMENDATIONS:

- When/if harvesting keep in mind Douglas-fir dwarf mistletoe infection levels (poor area for natural regeneration and Douglas-fir shelterwoods).
- Control non-crop vegetation for conifer growth, fertilize.
- Convert off-site pine plantations to diverse plant communities. Could utilize thinnings to contribute to site large woody debris or sell as special forest products to gain rehab funding.
- Rehabilitate compacted landings and skid trails prevalent wherever past site prep by machines was accomplished.
- Multi-story development
- Reduce road density
- Create long-term forage base
- Instream habitat restoration: add LWM
- Riparian revegetation
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0922 - Upper Mill Creek



0922 - Upper Mill Creek

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	0	0	444	0	356	0	800
Mature	0	24	1,514	0	3,102	0	4,640
Shelterwood	0	6	372	0	1,078	0	1,456
Poles, Small Saw	0	96	1,564	0	4,024	0	5,684
Seedling, Sapling	0	8	562	0	1,366	0	1,936
Other, Non-Forest	0	2	124	0	56	0	182
Total:	0	136	4,580	0	9,982	0	14,698
(Row Percents)	0%	1%	31%	0%	68%	0%	100

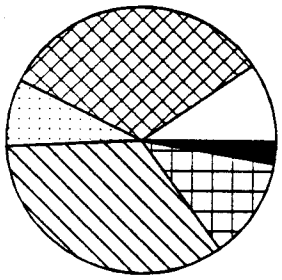
(Column Percents)

Old Growth	-	0%	10%	-	4%	-	5%
Mature	-	18%	33%	-	31%	-	32%
Shelterwood	-	4%	8%	-	11%	-	10%
Poles, Small Saw	-	71%	34%	-	40%	-	39%
Seedling, Sapling	-	6%	12%	-	14%	-	13%
Other, Non-Forest	-	1%	3%	-	1%	-	1%
Total:	-	100%	100%	-	100%	-	100%

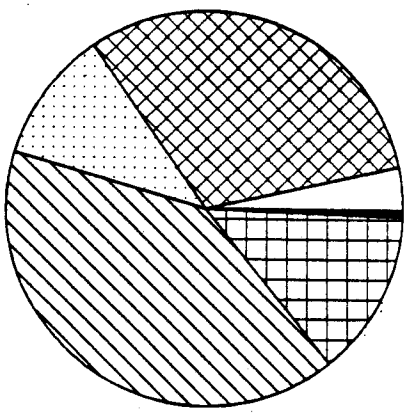
Condition Class by Allocation

0922 - Upper Mill Creek

Admin. With.

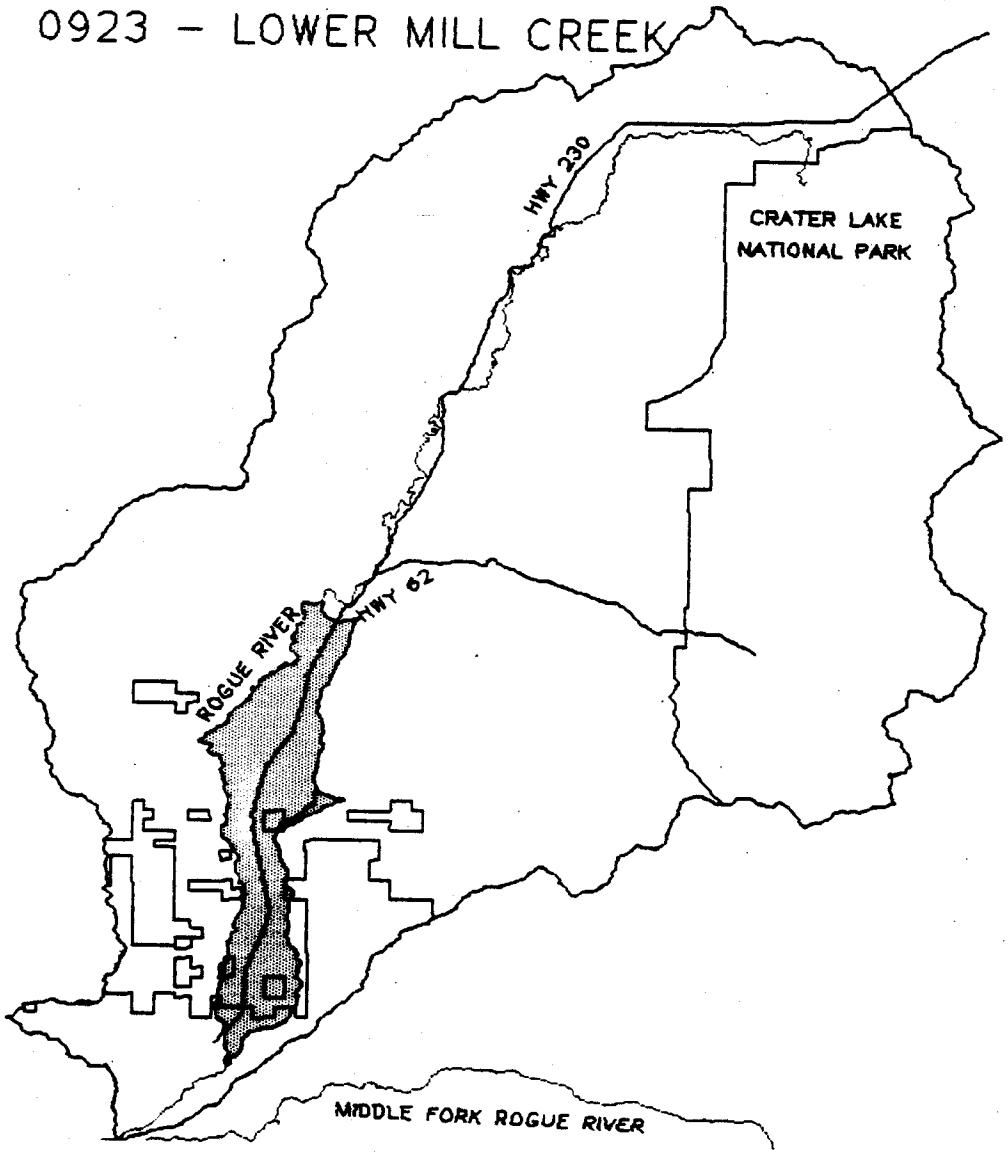


Riparian R.



Matrix

0923 – LOWER MILL CREEK



0923 - LOWER MILL CREEK

Current Conditions and Recommendations

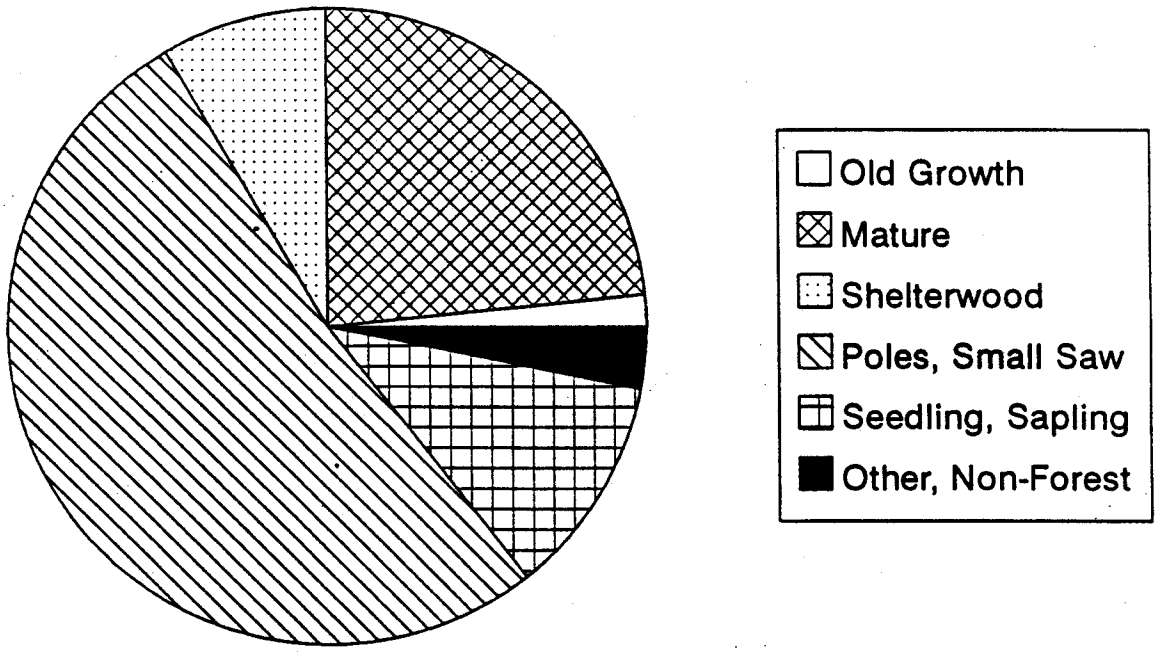
CURRENT CONDITION:

Vegetation:	**POOR/ FAIR**	Much of this area was harvested prior to USDA-FS property ownership as well as after (multiple entries). Timber harvesting 1950-1990, clearcuts predominate harvested areas. In 1959 alone 2,013 acres were harvested alone! Frost impacts are extreme. Compaction from both harvest operations and machine site prep is high. Conifer growth has been greatly reduced throughout this area due to soil compaction and frost.
Soils:	**POOR-FAIR**	Pumice and sand soils, displaced and compacted in harvested areas. Natural lack of nutrients in pumice soils exacerbated by machine piling.
Aquatics:	**POOR**	Poor habitat, grazing impacts in meadows.
Hydrology:	**GOOD**	Good water quality, adequate buffers although there has been some encroachment in riparian reserves from timber harvest activities
Wildlife Habitat:	**POOR**	Lack of late successional forest, high road density, lack of quality forage
OVERALL:	**POOR/FAIR**	

RECOMMENDATIONS:

- Need Highway 62 Corridor IRA to deal with insect and disease problems and stocking density in poorly managed area.
- Upland silviculture: needs stocking level control for insect and disease control and safety concerns (Hwy 62 and developed recreation sites and trails).
- Convert off-site pine plantations to diverse plant communities. Utilize thinnings as contribution to large woody debris or sell as special forest products and funding for rehab of landings and skid trails by ripping compaction and fertilization to build soil nutrients for conifer growth.
- Multi-story development
- Reduce road density
- Create long-term forage base
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.
- Road surface and fill slope armoring/reveg and road closure (earth log structure) on road 6210508 at milepost 0.55.

Condition Class
0923 - Lower Mill Creek



0923 - Lower Mill Creek

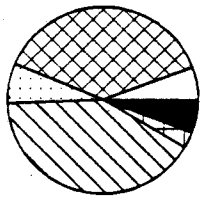
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	122	6	28	0	32	0	188
Mature	806	1,134	102	0	490	172	2,704
Shelterwood	148	176	36	0	610	0	970
Poles, Small Saw	868	1,874	96	0	2,490	696	6,024
Seedling, Sapling	58	94	70	0	944	130	1,296
Other, Non-Forest	122	30	36	0	36	140	364
Total:	2,124	3,314	368	0	4,602	1,138	11,546
(Row Percents)	18%	29%	3%	0%	40%	10%	100

(Column Percents)

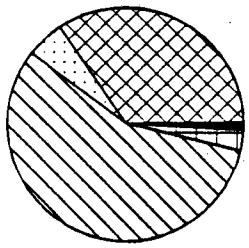
Old Growth	6%	0%	8%	-	1%	0%	2%
Mature	38%	34%	28%	-	11%	15%	23%
Shelterwood	7%	5%	10%	-	13%	0%	8%
Poles, Small Saw	41%	57%	26%	-	54%	61%	52%
Seedling, Sapling	3%	3%	19%	-	21%	11%	11%
Other, Non-Forest	6%	1%	10%	-	1%	12%	3%
Total:	100%	100%	100%	-	100%	100%	100%

Condition Class by Allocation

0923 - Lower Mill Creek

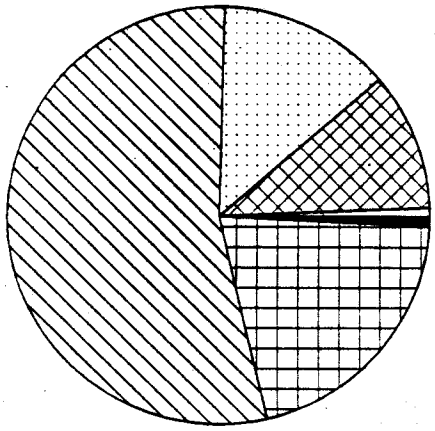


Congr. Res.

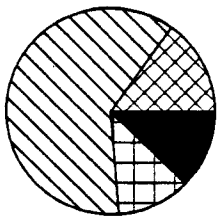


Admin. With.

Riparian R.

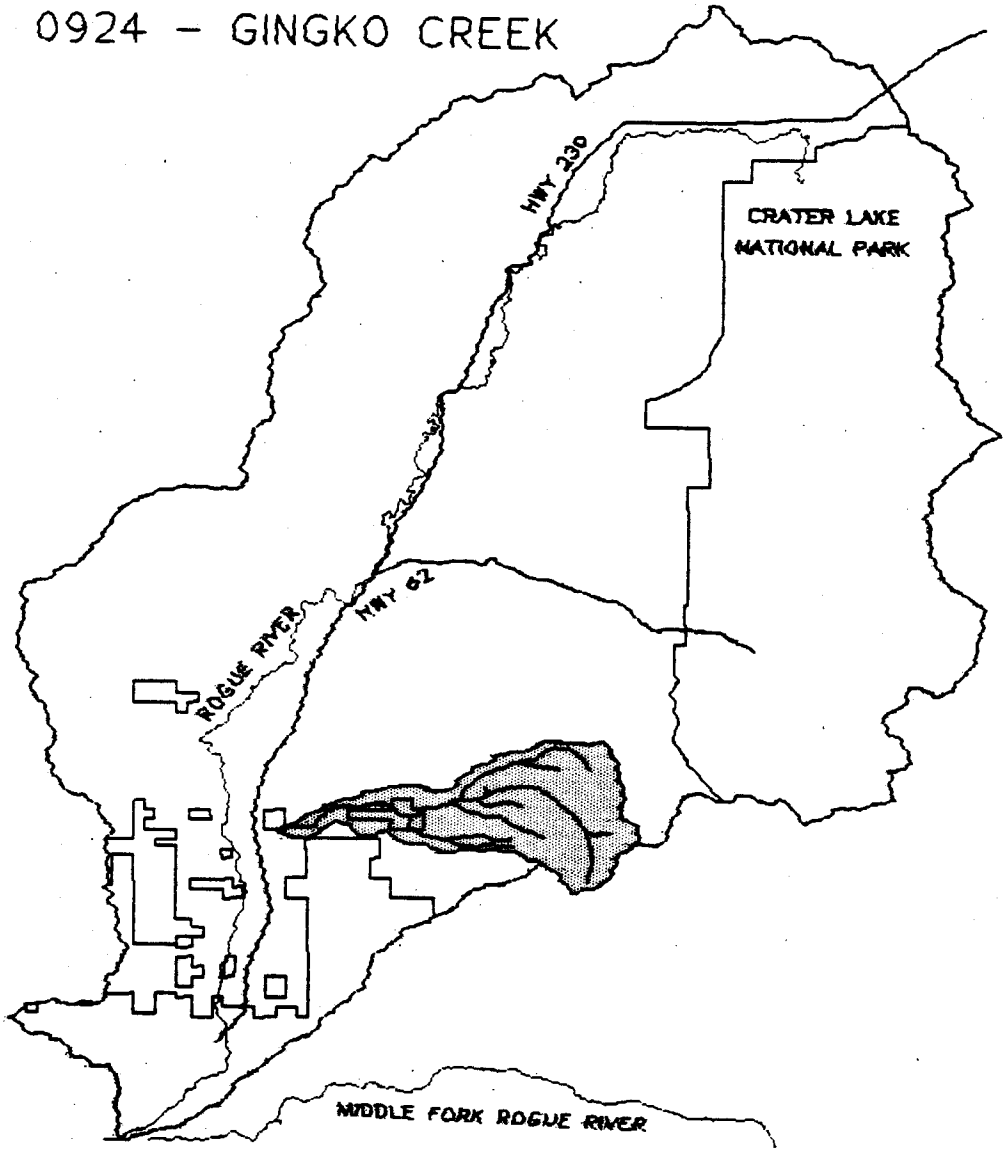


Matrix



Private

0924 - GINGKO CREEK



0924 - GINKGO CREEK

Current Conditions and Recommendations

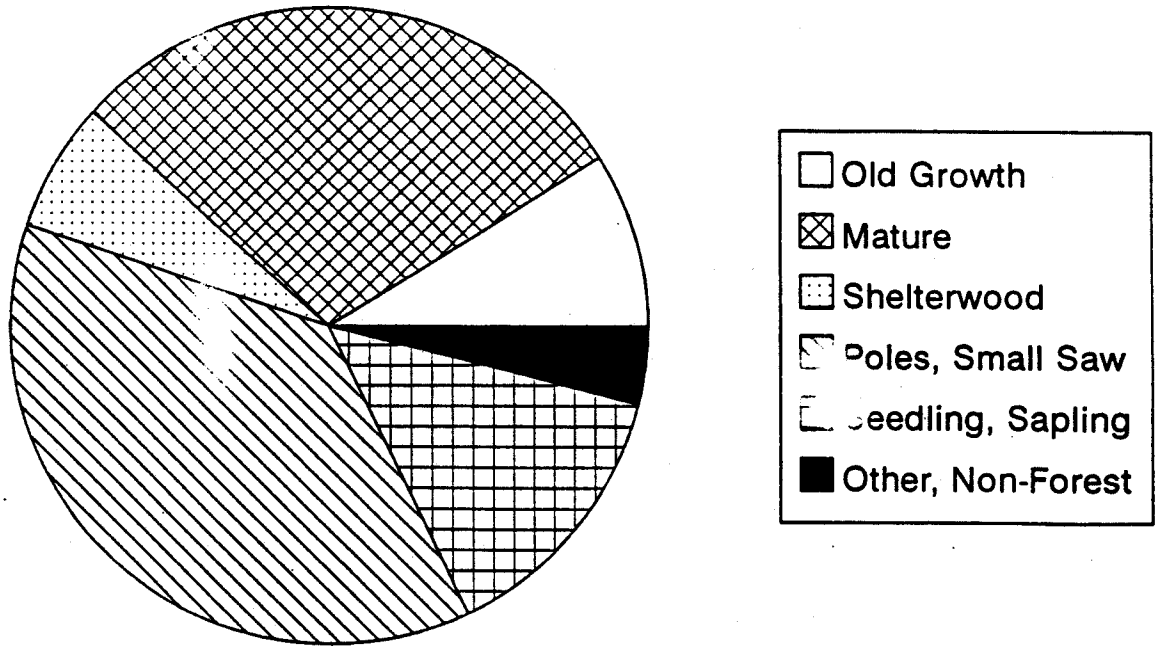
CURRENT CONDITION:

Vegetation:		
	POOR/ GOOD	Highly variable, frost problems, non-crop vegetative competition, dwarf mistletoe infection in Douglas-fir high, timber harvesting 1953-1993, clearcuts predominate harvested areas
Soils:		
	FAIR/ POOR	Very rocky soils derived from glacial till. Severe soil loss in machine piled areas.
Aquatics:		
	FAIR	Lack of pools, good cutthroat trout population
Hydrology:		
	FAIR	Channel in good condition, buffers not up to FEMAT standards in upper channel, lack of conifers in buffers.
Wildlife Habitat:		
	FAIR	High road density, lack of quality forage, private land ownership of key elk management areas
OVERALL:	**FAIR**	

RECOMMENDATIONS:

- When/if harvesting keep in mind Douglas-fir dwarf mistletoe infection levels high (poor area for natural regeneration and Douglas-fir shelterwoods).
- Control non-crop competing vegetation for conifer growth, fertilize.
- Convert off-site pine plantations to a diverse plant community.
- Rip compacted sites to increase site productivity.
- Reduce road density
- Create long-term forage base
- Obtain private land parcel
- Riparian silviculture
- Instream habitat restoration: pool development, stabilize banks, add LWM
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0924 - Gingko Creek



0924 - Ginkgo Creek

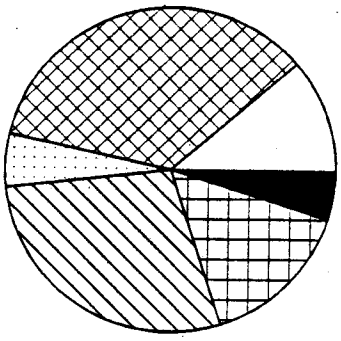
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	0	0	344	268	280	10	902
Mature	0	0	1,054	556	1,300	64	2,974
Shelterwood	0	0	160	106	392	2	660
Poles, Small Saw	0	4	848	526	2,044	350	3,772
Seedling, Sapling	0	0	452	232	698	28	1,410
Other, Non-Forest	0	0	146	68	134	58	406
Total:	0	4	3,004	1,756	4,848	512	**10,124**
(Row Percents)	0%	0%	30%	17%	48%	5%	100

(Column Percents)

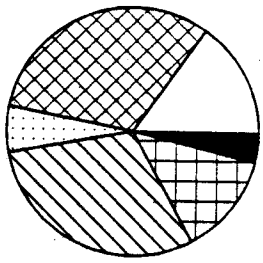
Old Growth	-	0%	11%	15%	6%	2%	9%
Mature	-	0%	35%	32%	27%	13%	29%
Shelterwood	-	0%	5%	6%	8%	0%	7%
Poles, Small Saw	-	100%	28%	30%	42%	68%	37%
Seedling, Sapling	-	0%	15%	[illegible]%	14%	5%	14%
Other, Non-Forest	-	0%	5%	[illegible]%	3%	11%	4%
Total:	-	100%	100%	100%	100%	100%	100%

Condition Class by Allocation

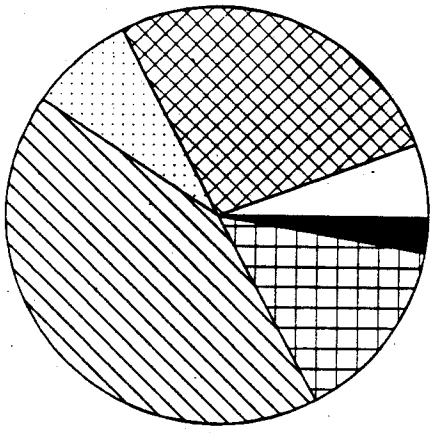
0924 - Gingko Creek



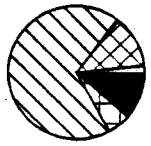
Riparian R.



L. S. R.

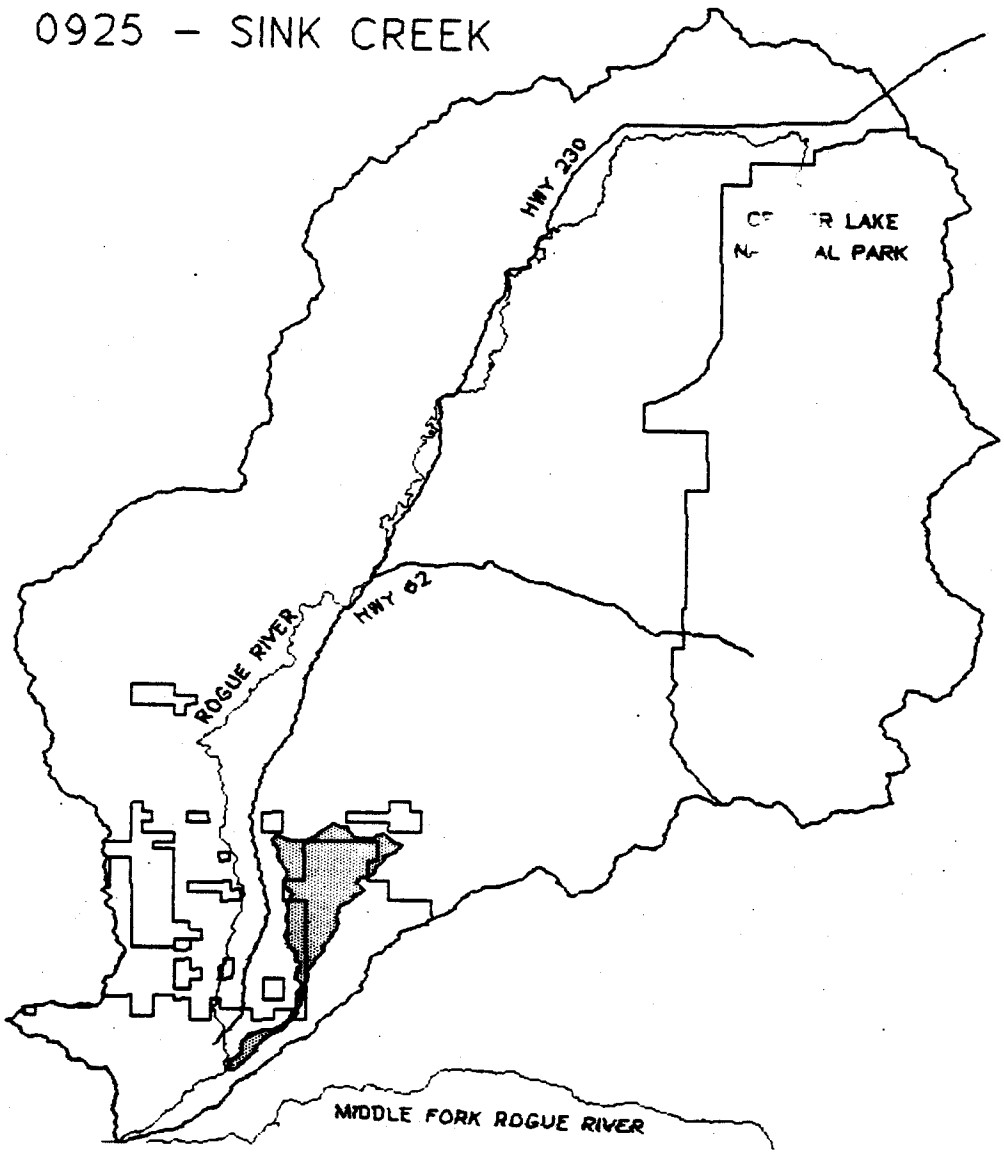


Matrix



Private

0925 – SINK CREEK



0925 - SINK CREEK

Current Conditions and Recommendations

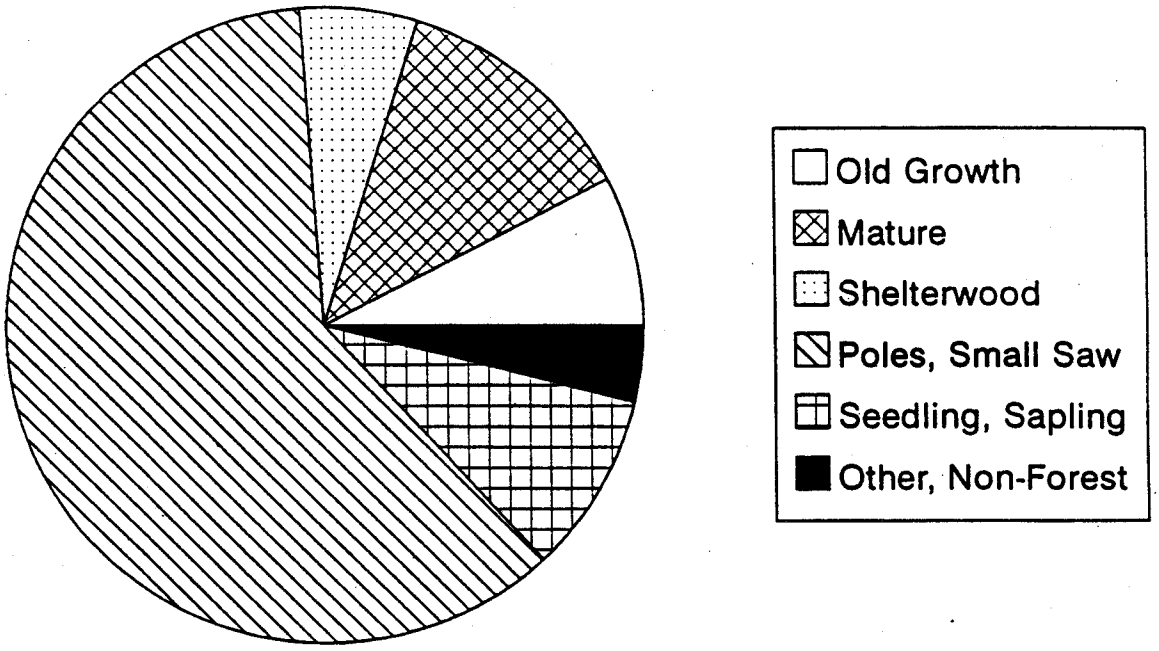
CURRENT CONDITION:

Vegetation:	**POOR**	Peavine Burn (1910) has greatly impacted the species composition of the area. Great number of off-site pine plantations and brushfields. Frost impacts are great. Non-crop vegetative competition is high. Compacted soils throughout area due to harvest entries (multiple entries) and machine site prep activities. Greatly lowered site productivity due to frost, soil compaction and lack of duff and woody materials to cycle nutrients back into forest. Timber harvesting 1955-1990, shelterwoods predominate harvested areas
Soils:	**FAIR/ POOR**	Sand and pumice soils. Compacted where entered, topsoil loss in machine piled and windrowed units. Natural lack of nutrients in pumice soils exacerbated by machine piling.
Aquatics:	**FAIR**	Lack of habitat
Hydrology:	**FAIR**	Created wetlands in some areas. Stream channel has sandy bottom and banks, poor habitat. Stream channel disappears into soil
Wildlife Habitat:	**POOR**	Lack of late successional forest on Forest Service lands, high road density, private land parcel in key elk management area, lack of quality forage
OVERALL:	**POOR/FAIR**	

RECOMMENDATIONS:

- -- When/if harvesting keep in mind Douglas-fir dwarf mistletoe infection level is high (poor area for natural regeneration and Douglas-fir shelterwoods).
- -- Control non-crop competing vegetation for conifer growth, fertilize.
- -- Convert off-site pine plantations to divers plant communities
- -- Rip compacted sites for increased site productivity.
- -- Multi-story development
- -- Reduce road density
- -- Create long-term forage base
- -- Obtain private land parcel
- -- Update yield tables for slower growth on compacted and displaced soils.
- -- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0925 - Sink Creek



0925 - Sink Creek

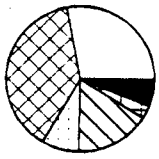
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	0	0	96	0	178	16	290
Mature	0	8	132	0	258	86	484
Shelterwood	0	0	28	0	194	6	228
Poles, Small Saw	0	0	56	0	174	2,096	2,326
Seedling, Sapling	0	0	10	0	122	220	352
Other, Non-Forest	0	0	20	0	36	94	150
Total:	0	8	342	0	962	2,518	**3,830**
(Row Percents)	0%	0%	9%	0%	25%	66%	100

(Column Percents)

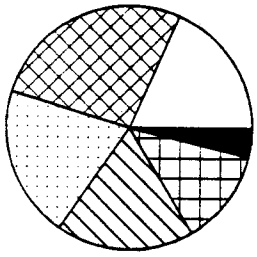
Old Growth	-	0%	28%	-	19%	1%	8%
Mature	-	100%	39%	-	27%	3%	13%
Shelterwood	-	0%	8%	-	20%	0%	6%
Poles, Small Saw	-	0%	16%	-	18%	83%	61%
Seedling, Sapling	-	0%	3%	-	13%	9%	9%
Other, Non-Forest	-	0%	6%	-	4%	4%	4%
Total:	-	100%	100%	-	100%	100%	100%

Condition Class by Allocation

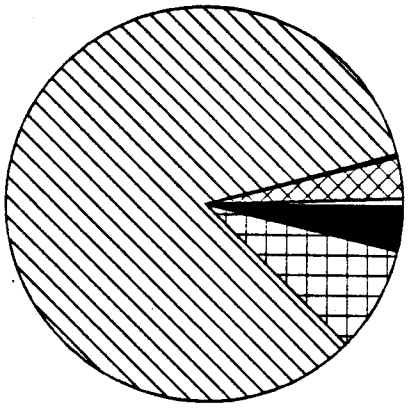
0925 - Sink Creek



Riparian R.

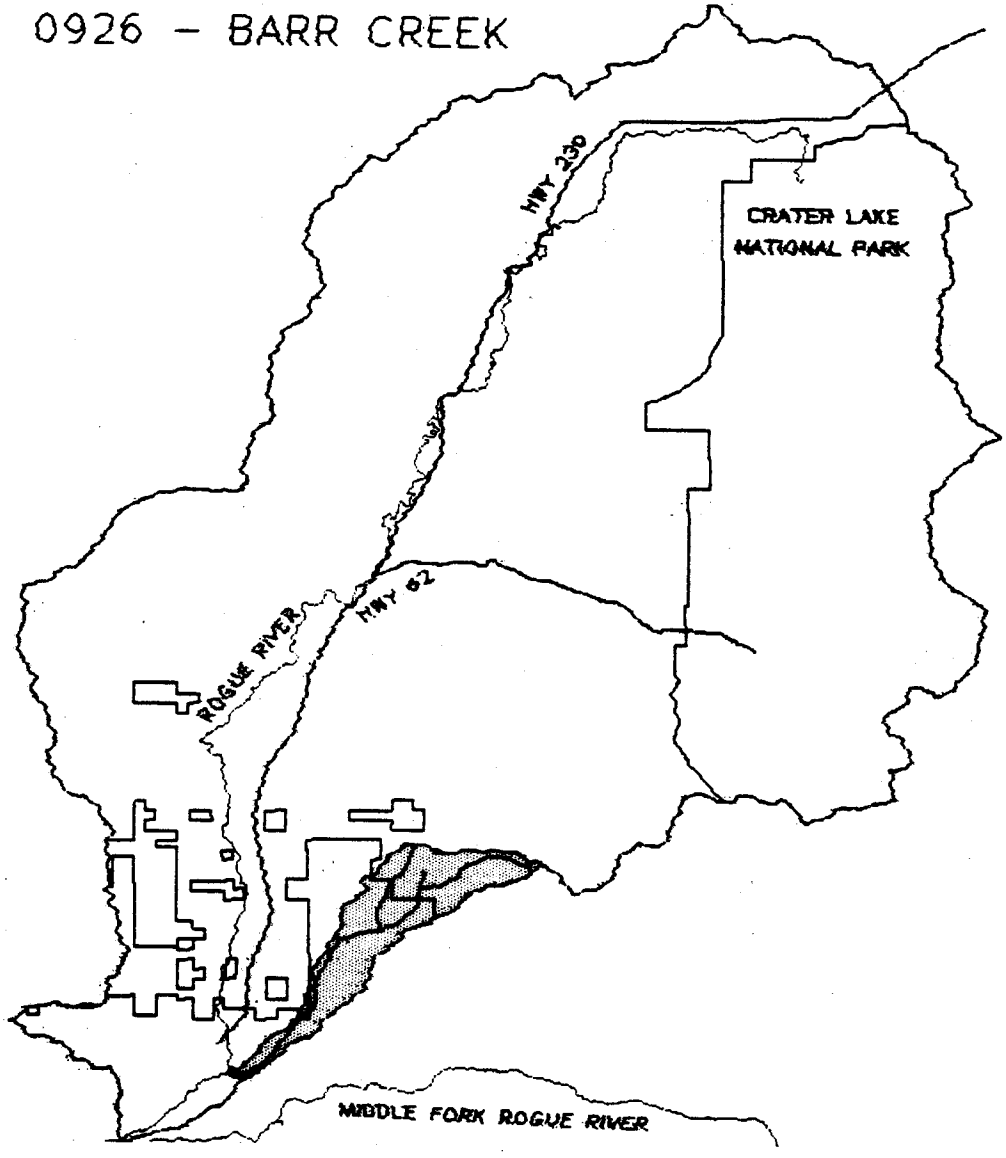


Matrix



Private

0926 – BARR CREEK



0926 - BARR CREEK

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:

POOR — Peavine Burn (1910) impacted area species composition and stand structures. Off-site pine plantations are numerous. Frost impacts are high. Non-crop vegetative competition is high. Soils compacted due to multiple entries for harvest operations and machine site prep. Timber harvesting 1973-1980, shelterwoods predominate harvested areas

Soils:

NFS POOR/FAIR
PVT POOR — Sand and pumice soils on lower slopes. Natural lack of nutrients in pumice soils exacerbated by machine piling. FS lands heavily windrowed with topsoils loss. Rocky soils, glacial till on slopes. Displaced and compacted soils in windrowed areas.

Aquatics:

FAIR — Lack of habitat

Hydrology:

FAIR — Created wetlands in some areas. Stream channel has sandy bottom and banks, poor habitat. Stream channel disappears into soil.

Wildlife Habitat:

POOR — Lack of late successional forests on Forest Service lands, high road density, private land parcel in key elk management area, lack of quality forage

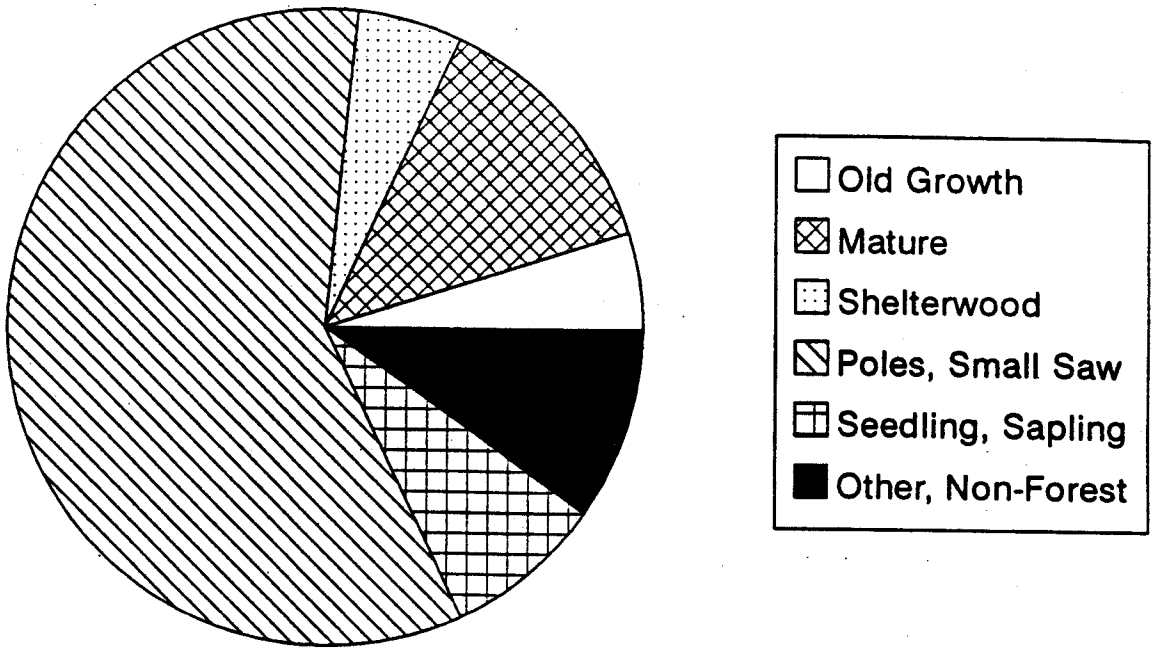
OVERALL:

NON-NFS POOR, NFS POOR/FAIR

RECOMMENDATIONS:

- When/if harvesting keep in mind Douglas-fir dwarf mistletoe infection levels (poor area for natural regeneration and Douglas-fir shelterwoods).
- Upland silviculture (Control non-crop vegetation for conifer growth, fertilize)
- Upland silviculture: Convert off-site pine plantations to diverse plant communities. Could utilize thinnings to contribute to site large woody debris or sell as special forest products to gain rehabilitation funding.
- Rehabilitate compacted landings and skid trails prevalent by ripping wherever past site prep by machines was accomplished.
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0926 - Barr Creek



0926 - Barr Creek

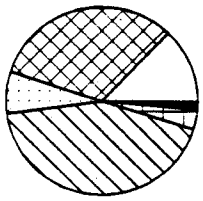
Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
C Growth	0	0	108	0	174	28	310
Mature	0	0	268	8	356	198	830
Shelterwood	0	0	60	0	230	40	330
Poles, Small Saw	0	0	360	0	896	2,414	3,670
Seedling, Sapling	0	0	28	0	52	434	514
Other, Non-Forest	0	0	12	0	32	568	612
Total:	0	0	836	8	1,740	3,682	6,266
(Row Percents)	0%	0%	13%	0.13%	28%	59%	100

(Column Percents)

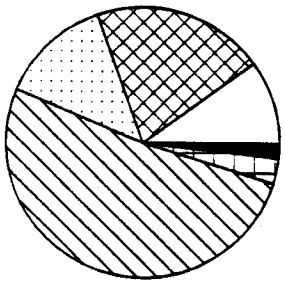
Old Growth	-	-	13%	0%	10%	1%	5%
Mature	-	-	32%	100%	20%	5%	13%
Shelterwood	-	-	7%	0%	13%	1%	5%
Poles, Small Saw	-	-	43%	0%	51%	66%	59%
Seedling, Sapling	-	-	3%	0%	3%	12%	8%
Other, Non-Forest	-	-	1%	0%	2%	15%	10%
Total:	-	-	100%	100%	100%	100%	100%

Condition Class by Allocation

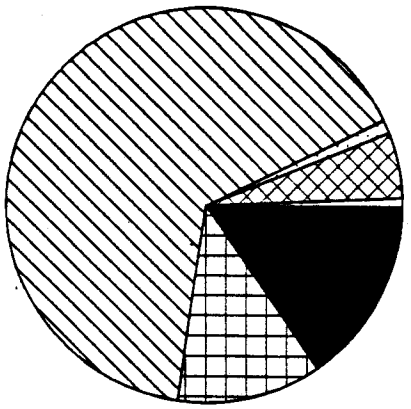
0926 - Barr Creek



Riparian R.

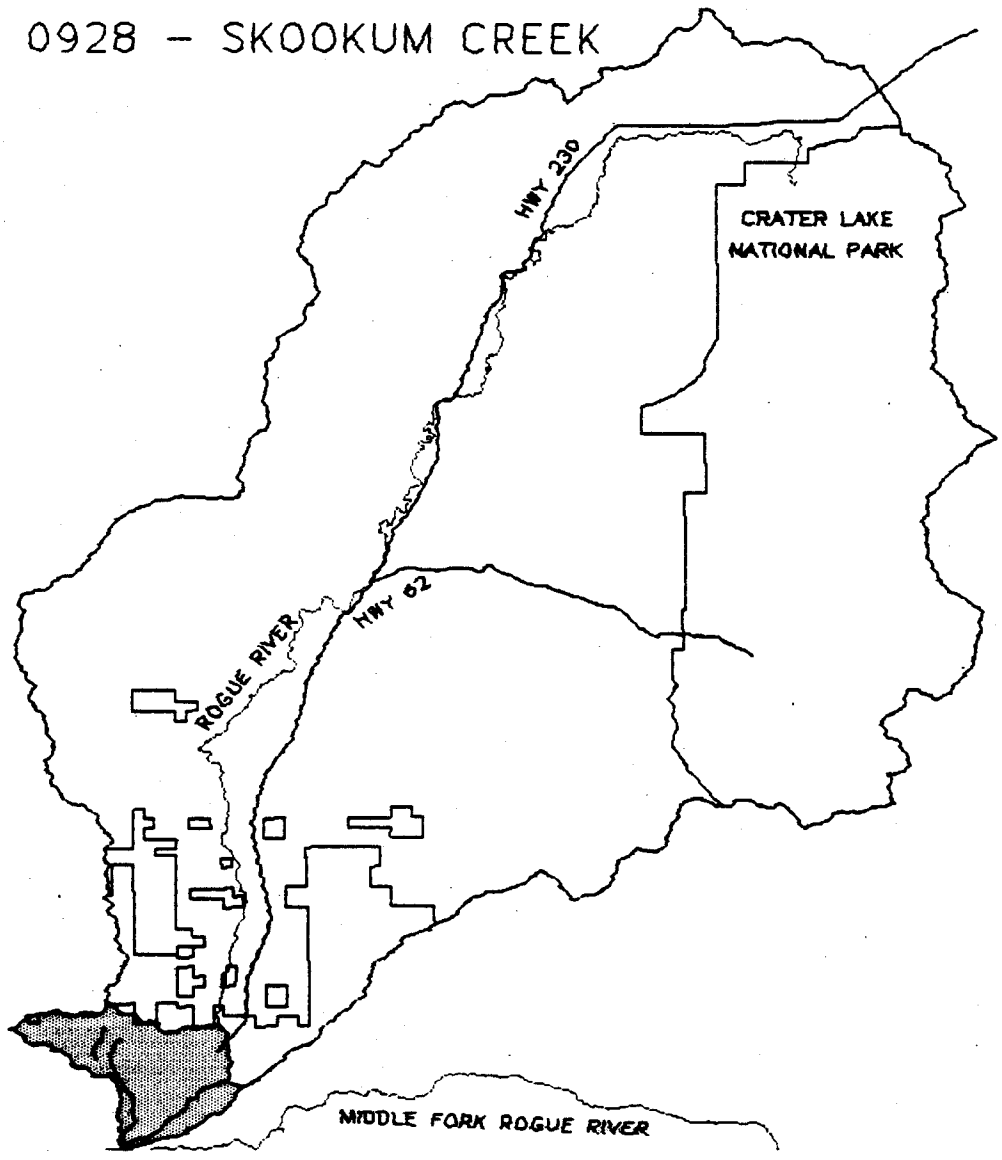


Matrix



Private

0928 – SKOOKUM CREEK



0928 - SKOOKUM CREEK

Current Conditions and Recommendations

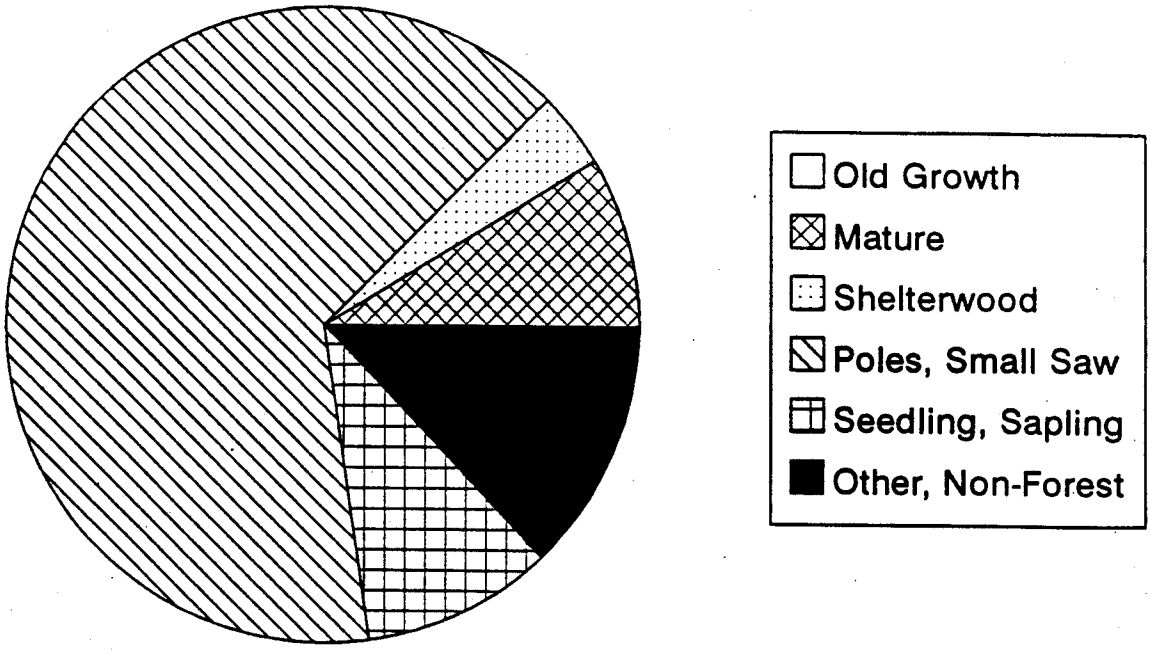
CURRENT CONDITION:

Vegetation:	**UN-KNOWN**	Need inventory
Soils:	**UN-KNOWN**	Clay-rich soils. Sandy soils along eastern boundary. Where logged, compacted and/or puddled on flats from skid trails and machine piling, displaced on slopes. Turbid runoff. Need inventory.
Aquatics:	**UN-KNOWN**	Need inventory
Hydrology:	**UN-KNOWN**	Need inventory
Wildlife Habitat:	**UN-KNOWN**	Need inventory
OVERALL:	**NON-NFS POOR, NFS POOR/FAIR**	

RECOMMENDATIONS:

- Need inventory to determine needs
- Update GIS and REFOR (Rbase database) to easily store and retrieve watershed information
- Work in coordination and in partnership with other landowners to improve quality of watershed
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0928 - Skookum Creek



0928 - Skookum Creek

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	0	0	0	0	0	0	0
Mature	0	0	4	0	22	532	558
Shelterwood	0	0	0	0	34	216	250
Poles, Small Saw	0	0	0	0	0	4,166	4,166
Seedling, Sapling	0	0	6	0	2	624	632
Other, Non-Forest	0	0	0	0	0	832	832
Total:	0	0	10	0	58	6,370	6,438
(Row Percents)	0%	0%	0%	0%	1%	99%	100

(Column Percents)

Old Growth	-	-	0%	-	0%	0%	0%
Mature	-	-	40%	-	38%	8%	9%
Shelterwood	-	-	0%	-	59%	3%	4%
Poles, Small Saw	-	-	0%	-	0%	65%	65%
Seedling, Sapling	-	-	60%	-	3%	10%	10%
Other, Non-Forest	-	-	0%	-	0%	13%	13%
Total:	-	-	100%	-	100%	100%	100%

0914 - UPPER ROGUE

Current Conditions and Recommendations

CURRENT CONDITION:

Vegetation:

FAIR to EXCELLENT

Highly variable, mostly true fir zone, sedge a problem, major competitor, timber harvesting 1966-1991, clearcuts predominate harvested areas

Soils:

FAIR/ POOR

Lower slopes pumice, compacted and displaced where logged. Natural lack of nutrients in pumice soils exacerbated by machine piling. Upper slopes glaciated rocky soils (cobble boulder size), land slides, wetlands in units, incised pumice canyons.

Aquatics:

POOR

Naturally poor, doesn't provide fisheries habitat due to cold waters.

Hydrology:

GOOD

Stream channels in good condition, water quality good

Wildlife Habitat:

FAIR

High road density, grazing impacts to meadows, wetlands degraded by beaver trapping, lack of late successional forests on Forest Service lands

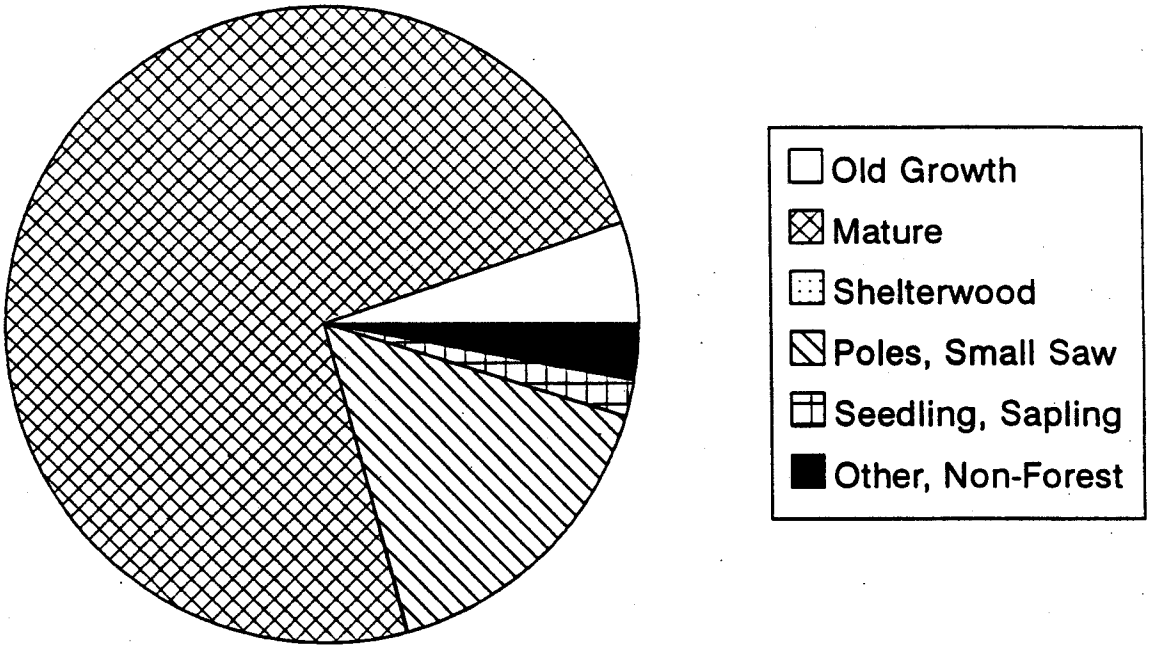
OVERALL:

CLNP GOOD to EXCELLENT, NFS FAIR

RECOMMENDATIONS:

- Upland silviculture needed for stocking level control (firewood opportunity)
- Implement allotment plan
- Maintain incise pumice canyon buffers
- Multi-story development
- Reduce road density
- Fence or control livestock
- Update yield tables for slower growth on compacted and displaced soils.
- Manage for fine woody material to reestablish nutrient cycling, water-holding capacity, erosion control and turbid runoff.

Condition Class
0914 - Upper Rogue



0914 - Upper Rogue

Condition Class	-- Allocation -- Congress. Reserved	Administr. Withdrawn	Riparian Reserve	Late Suc. Reserve	Matrix	Private Land	Total:
Old Growth	204	0	396	438	4	0	1,042
Mature	11,098	2,090	440	412	896	0	14,936
Shelterwood	14	0	2	8	0	0	24
Poles, Small Saw	2,090	490	178	246	252	0	3,256
Seedling, Sapling	66	0	94	200	8	0	368
Other, Non-Forest	224	78	200	78	6	0	586
Total:	13,696	2,658	1,310	1,382	1,166	0	20,212
(Row Percents)	68%	13%	6%	7%	6%	0%	100

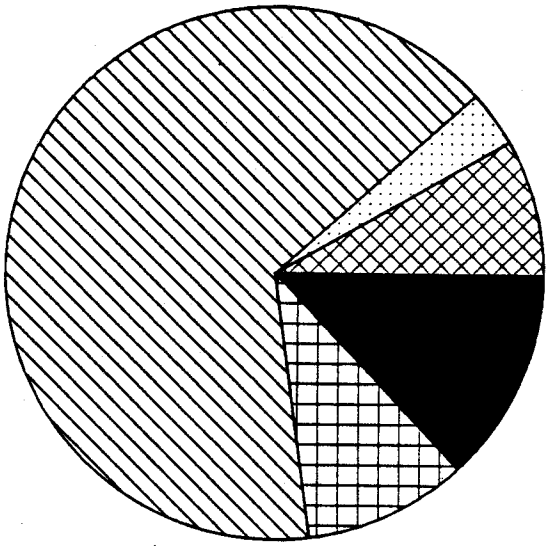
(Column Percents)

Old Growth	1%	0%	30%	32%	0%	-	5%
Mature	81%	79%	34%	30%	77%	-	74%
Shelterwood	0%	0%	0%	1%	0%	-	0%
Poles, Small Saw	15%	18%	14%	18%	22%	-	16%
Seedling, Sapling	0%	0%	7%	14%	1%	-	2%
Other, Non-Forest	2%	3%	15%	6%	1%	-	3%
Total:	100%	100%	100%	100%	100%	-	100%

Condition Class by Allocation

0928 - Skookum Creek

Matrix



Private